

# COUNTRY GUIDE

THE FARM MAGAZINE

Hog Barn Design

BOOST RANGELAND CAPACITY

School Girl Specials

(Patterns)

JUL 21 1964

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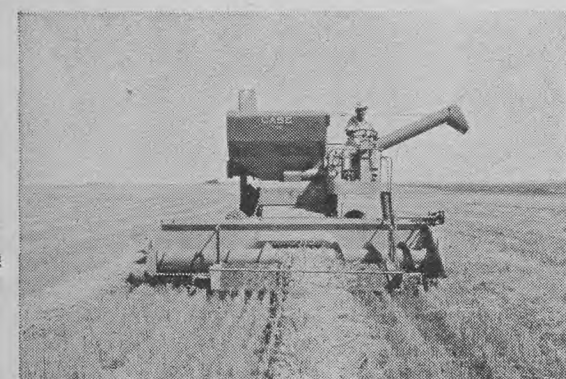




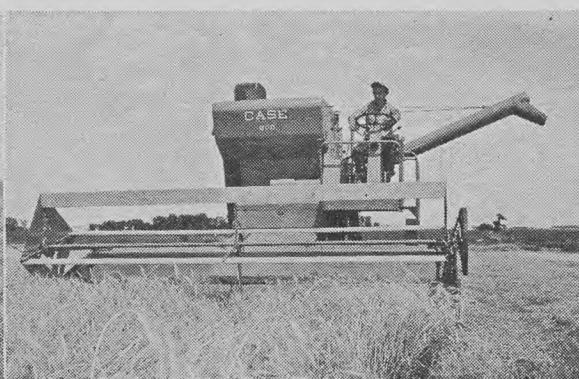


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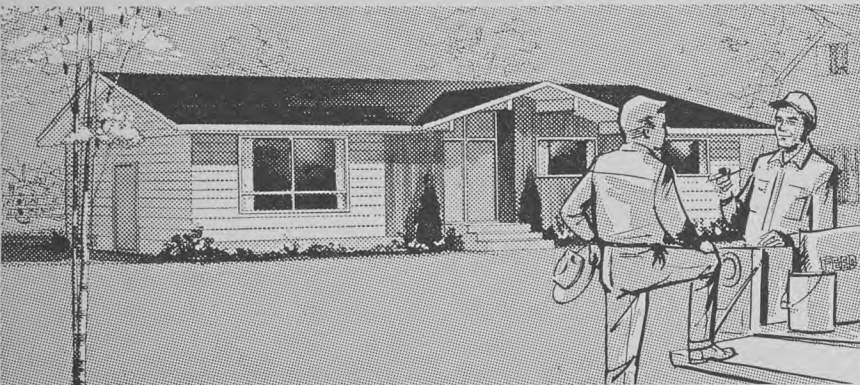
# EASY-TO-ERECT



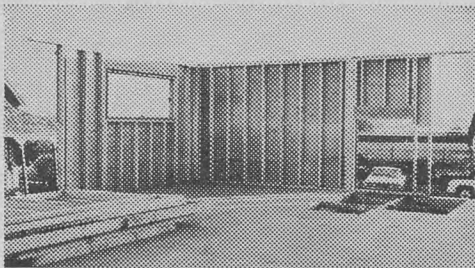
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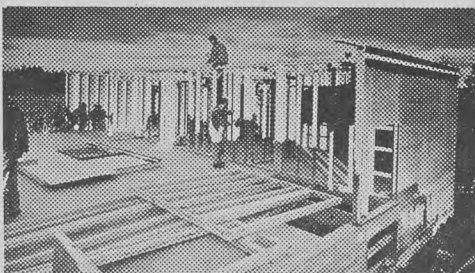
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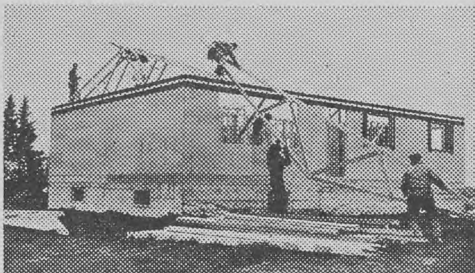
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# COUNTRY GUIDE

Vol. 83, No. 7 - JULY 1964

THE FARM MAGAZINE

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## In This Issue

A sign of the times! This billboard greeted hog producers who attended the Swine Improvement Conference at Guelph, Ont., recently. It's further evidence that the swine industry is becoming specialized. Over 700 farmers attended the conference to learn about new developments in this fast-moving industry, some of which are described in this issue.

Limiting factor in Canada's beef cattle population has often been called our range land. Say the experts, "Range land has been stocked to capacity in recent years." But they also say that its carrying capacity could be increased by 200 to 300 per cent in some areas by better range management. Field Editor Cliff Faulkner sizes up the prospects for this kind of development in an article beginning on page 12.

Poultrymen will want to look at Peter Lewington's story on high-density housing. He reports that environment-controlled buildings make it possible to cram four birds into each 12" by 20" cage. He concludes that high-density housing seems to be a worthwhile cost-cutting venture.



## Featured

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**COVER:** Good cattle and a good pasture program go together at Avondale Farm, Brockville, Ont. Farm manager Arden Baker, who is responsible for both, looks on.—Don Baron photo.

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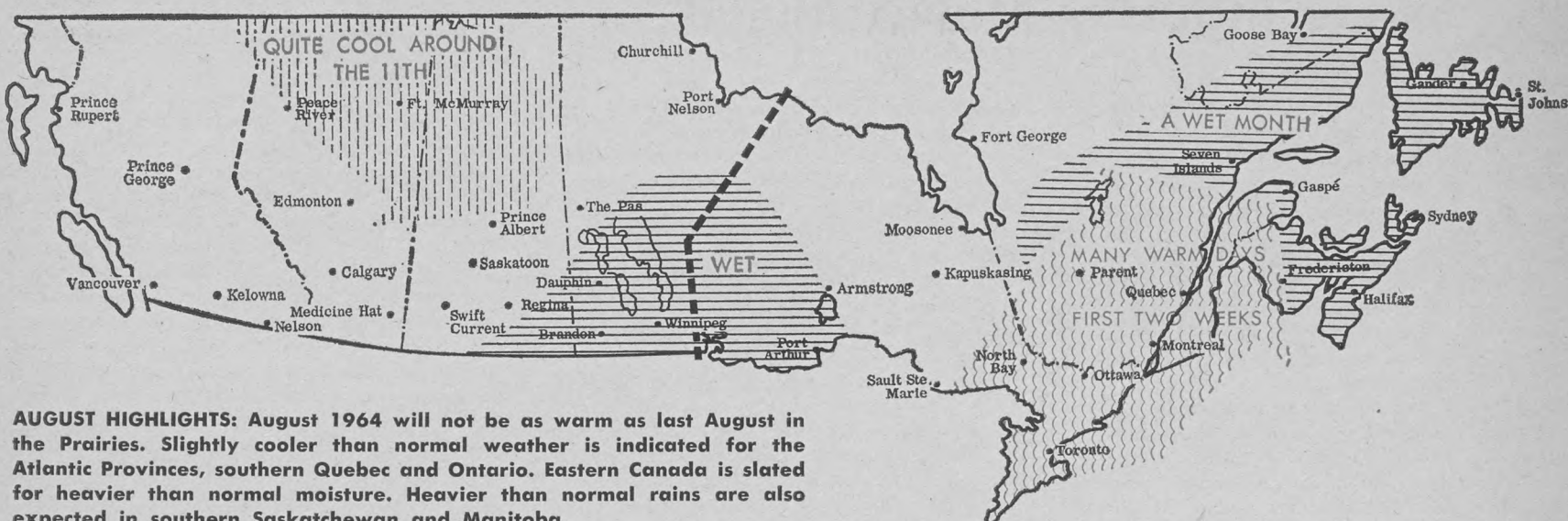
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COUNTRY GUIDE





## AUGUST 1964

(Allow a day or two either way in using this forecast. It should be 75 per cent right for your area, but not necessarily for your farm.—Ed.)

### Alberta

- 1st week 1-8:** Rainfall will be light. Northern areas can expect rainy weather on the 1st. Conditions threaten all areas on the 6th. Cooler weather due around the 2nd. Warm weather last half of week.
- 2nd week 9-15:** Generally dry weather is expected. Moisture around the 10th will be light. Sharply cooler weather is in prospect between the 11th-13th with night temperatures dropping to the 30s in the north.
- 3rd week 16-22:** The trend is toward wet weather with rainfall at its heaviest as showers and thunderstorms occur between the 18th and 22nd. Some warm days are likely around the 19th and 20th.
- 4th week 23-31:** Showers around the 23rd will be followed by fair weather. Further moisture likely around the 29th-30th, mostly in the south. Cool mornings due the 26th-28th and again on the 31st.

### Saskatchewan

- 1st week 1-8:** Showery weather on the 1st will give way to cooler conditions the 2nd-3rd. Unsettled weather likely near the 4th with showers and thunderstorms later in the week. Warmer weather likely for week end.
- 2nd week 9-15:** Fair, cool weather will predominate during this interval. Some showers are likely around the 10th with conditions remaining threatening on the 11th. Sharply lower temperatures between 11th and 14th.
- 3rd week 16-22:** Shower and thunderstorm activity will be quite general around the 18th-19th. Warm weather will predominate between the 18th and 21st with a brief cooling at the end of the week.
- 4th week 23-31:** Rainy weather expected early in the week followed by generally fair weather. Showers and thunderstorms will develop again on the 29th-30th. Cool weather predominating between 26th and 28th.

### Manitoba

- 1st week 1-8:** Scattered light showers are in prospect the first two days. Intermittent rain is indicated between the 5th-7th. Temperatures will be seasonal most days and rise to warm levels toward the end of the week.
- 2nd week 9-15:** Warm weather will linger until a storm moves in on the 10th and 11th. The storm will bring general moisture and much cooler air. Cool weather will last through the end of the week.
- 3rd week 16-22:** Showers will be infrequent during this period. The principal moisture is likely around the 19th. Temperatures ranging in the high 70s and 80s are due between the 18th and 21st.
- 4th week 23-31:** Seasonal temperatures will characterize the first days of the week. Scattered showers are expected in some sections around the 24th. Cooler weather between the 27th-29th and showers likely 29th-30th.

### Ontario

- 1st week 1-8:** Temperatures will be in the 80s on the 1st and 2nd. The 2nd and 3rd will bring scattered showers and temperatures will then return to more seasonal levels. Important rains likely the 6th-7th.
- 2nd week 9-15:** Rainfall will be infrequent and generally light. A storm is due around the 12th with fair weather predominating most other days. Cool air at the end of the week will lower temperatures sharply.
- 3rd week 16-22:** Cool air will maintain low temperatures first of week. Brief moderation is likely near mid-week before slightly cool air returns. Showers will threaten southern area around the 16th.
- 4th week 23-31:** Unsettled weather will characterize this interval. Showers and thunderstorms at regular intervals in fairly heavy amounts. Warm days are due around the 25th-26th.

### Quebec

- 1st week 1-8:** The first half will be warmer than normal. Readings will be at more seasonal levels after the 5th. Scattered showers are indicated around the 3rd with the more important rain between the 5th and 7th.
- 2nd week 9-15:** Warm weather is expected at the beginning of this week. A storm on the 12th-13th will end the warm spell and produce widespread moisture. Low temperatures are likely at the week end.
- 3rd week 16-22:** Cool weather is indicated for the first part of this week. Temperatures will likely drop into the 30s in many areas. Showers and thunderstorms around the 20th-21st will be followed by cool air.
- 4th week 23-31:** Cool weather at the beginning of this week will be followed by warmer days between the 25th and 27th. Showers and thunderstorms around the 27th-28th. More rain in prospect as month ends.

### Atlantic Provinces

- 1st week 1-8:** Rainfall will be substantial. Showers are likely around the 2nd. Thunderstorms are expected between the 4th and 8th. Warm muggy weather will be replaced by slightly cooler weather after the 5th.
- 2nd week 9-15:** Shower activity will taper off during this interval. The main chance for moisture will occur around the 13th. Temperatures will rise between the 10th and 13th and readings will reach rather warm levels.
- 3rd week 16-22:** A system moving through on the 16th will cause scattered showers. Cool weather will linger through the 18th. General rains likely the last two or three days with more cool air on the 22nd.
- 4th week 23-31:** Fair skies and relatively cool weather will hold sway at the first of week. Frequent showers after the 26th. Temperatures will rise slightly between the 25th-28th and return to near normal as month ends.

Key to Abbreviations: T, temperature; P, precipitation; CL, cooler; WM, warmer; TH, threatening; SH, showers; R-S, rain or snow.



## Swine Industry Moves Ahead

EVIDENCE IS MOUNTING that a full-fledged revolution is sweeping through the hog industry.

It was poultrymen who set the pace for agriculture in recent years as they devised or adapted new techniques of financing, producing and marketing. They transformed the small farm flock—a sideline enterprise on thousands of farms a few years ago—into a specialized enterprise. Flocks of several thousands of hens became commonplace. Poultrymen began producing broiler chickens, which were unknown two short decades ago, and made them a major meat in our diet, competing vigorously with pork and beef for a share of the housewife's food dollar. They have turned to the production of turkey broilers in more recent years, and now this meat is taking on importance.

In tracing the swift development of the poultry industry, it is possible to gauge roughly the significance of what is happening in hogs; and to predict that the developments taking place are going to have a profound effect on farmers and on farm communities.

These developments are reflected vividly in this issue of Country Guide. The initiative for change is coming in many instances from farmers themselves, who have caught a glimpse of what can be done using new methods, and who are determined to grasp these opportunities. For example, over 700 farmers turned out to the recent Swine Conference at the Ontario Agricultural College.

In the May issue, we reported on the National Swine Conference in Montreal, which was sponsored by the Canadian Federation of Agriculture. At this conference a National Hog Advisory Board was set up to offer guidance and long-term planning to the industry. We also reported, that provincial organizations had been set up to provide leadership at the local level.

In this issue we offer a closer look at how hogmen themselves are moving. One series of articles describes the way three Manitoba farmers have used many novel techniques to build specialized swine enterprises. Ed Morrow handles 1,500 hogs a year in his new 2-storey hog barn. The building has chain cleaners for manure, a limited drop feeding system and partial under-floor heating of the pens. Lloyd Masse handles 1,200 hogs a year in his single storey multi-unit building in which the manure is handled in liquid form. Frank Lepp has built a slatted floor building and has a lagoon to handle the manure. Lepp can look after 500 hogs at a time in this building which has variable width pens and a complete ventilation system.

From Ontario comes a detailed description of a slatted floor set-up which was first described in Country Guide a year ago, and which has been expanded and improved, and is working better than ever now.

Another article presents a searching analysis of one serious problem that crops up with specialization—where do you buy healthy pigs if you have a hog barn to keep full, but no sow herd? The experiences of several hogmen in meeting this problem are described, and recommendations are made as to what can be done by the swine industry itself to reduce the number of diseased pigs that are offered for sale.

Carcass quality is an age-old problem, and while improvement has been slow in the past,

Dr. Howard Fredeen of Lacombe Experimental Farm proposes new grading standards that he believes will help hogmen meet the competition of producers in the United States who are rapidly upgrading the quality of their hogs.

These and other items in this issue reflect the fact that the swine industry is in a period of rapid change. Our field editors have been spotting this trend in their travels across the country. They see producers searching out new sources of credit, asking engineers for new building designs, searching for better rations, breeding systems and disease control methods. In fact, they are searching for and finding ways to produce hogs more efficiently. Just as poultrymen did before them, their efforts will undoubtedly result in increased production and consumption of pork products and bring the swine industry new importance.

One further word should be spoken about this industry in change. While specialized hog enterprises are now becoming commonplace, there is little evidence yet that the hog industry is going to follow the poultry industry toward integration, and toward control by integrators. It is likely that, in the foreseeable future, farmers with good land, good cropping programs and the ability to set up sound swine enterprises will be producing this country's hogs. Hog farming is changing but hog farmers will continue to be the cornerstone of the industry. ✓

## More Research Needed

IN ADDRESSING the annual meeting of the Canadian Seed Growers Association in Saskatoon recently, Dr. J. A. Anderson of the Research Branch, Canada Department of Agriculture, dealt with the need for a well-balanced research program; one that deals not only with the immediate needs of farmers, but involves research in depth as well.

By way of example, he referred to pesticides and pointed to the difficulties facing Canada and every other country in the world in developing a wise use for them. The reason for the difficulties, he stated, is that practice has gotten ahead of research. Development work has been done without the required accompanying studies in depth. The program was too superficial; it was not well balanced. The two difficulties that we now face regarding the use of pesticides, he said, are these: various insects are developing resistance to pesticides and some pesticide residues have been found to be persistent and potentially dangerous in their cumulative effects. Dr. Anderson told how scientists in this and other countries are striving for a rapid expansion of the studies required to produce knowledge that will solve these problems.

Dr. Anderson's comments provide an interesting insight into the complex problems that face research scientists today. The responsibilities of these men are large. Every farmer is familiar with the way money spent on agricultural research has often been repaid many times over. Research results have shown the way toward more effective farming programs; they have made it possible to produce cheaper food for consumers. With the population explosion that is taking place in the world today, the need is for still more, rather than less, research of a well-directed nature. Dr. Anderson's comments underline this need. ✓

## Bank for Breeders

WHEN DR. JIM HENDERSON, Dean of Veterinary Medicine at Washington State University, returned briefly to Ontario Veterinary College to attend the opening of the new Breeders Service Building (see page 11) he made an important point; a point which has been slow to dawn in livestock circles. Initially, the aim of artificial insemination was to get an animal in calf. The tacit assumption was that a purebred bull of desirable type would contribute to breed improvement. However, it is now recognized that breed improvement is rather more complex, and that the genetic worth of breeding stock has often been masked by environment. It is this fact that has been behind the failure of many breeders and breeding co-operatives to select suitable sires. However, breeders are now gaining an understanding of this problem and it has been largely overcome with the development of Contemporary Comparisons—a system of comparing a bull's daughters with the daughters of other bulls in the same herd at the same time.

Keynote speaker at the opening of the Breeders Service Building was Dr. Joseph Edwards, who, during the war, was one of those who developed the artificial insemination program in Britain. Dr. Edwards also emphasized the importance of a modern approach to livestock breeding through the use of A.I. He said, "In testing livestock, there is safety in numbers. The strength of the multi-herd assessment underlines the weakness of the single herd test with its environmental differences." To further emphasize his point, he cited instances in which a bull's daughters surpassed the national average, yet that bull still lowered the production of his progeny.

Turning to further opportunities that have been opened up by artificial insemination, and particularly by frozen semen, Dr. Edwards went on, "Supercooled semen opened the world to the cattleman and animal breeder." One immediate benefit is long-term semen storage. This means that semen can be stored until a bull is desirably proven. Edwards added the dry witticism that, "We may yet see advertisements claiming, not a drop sold until 10 years old!"

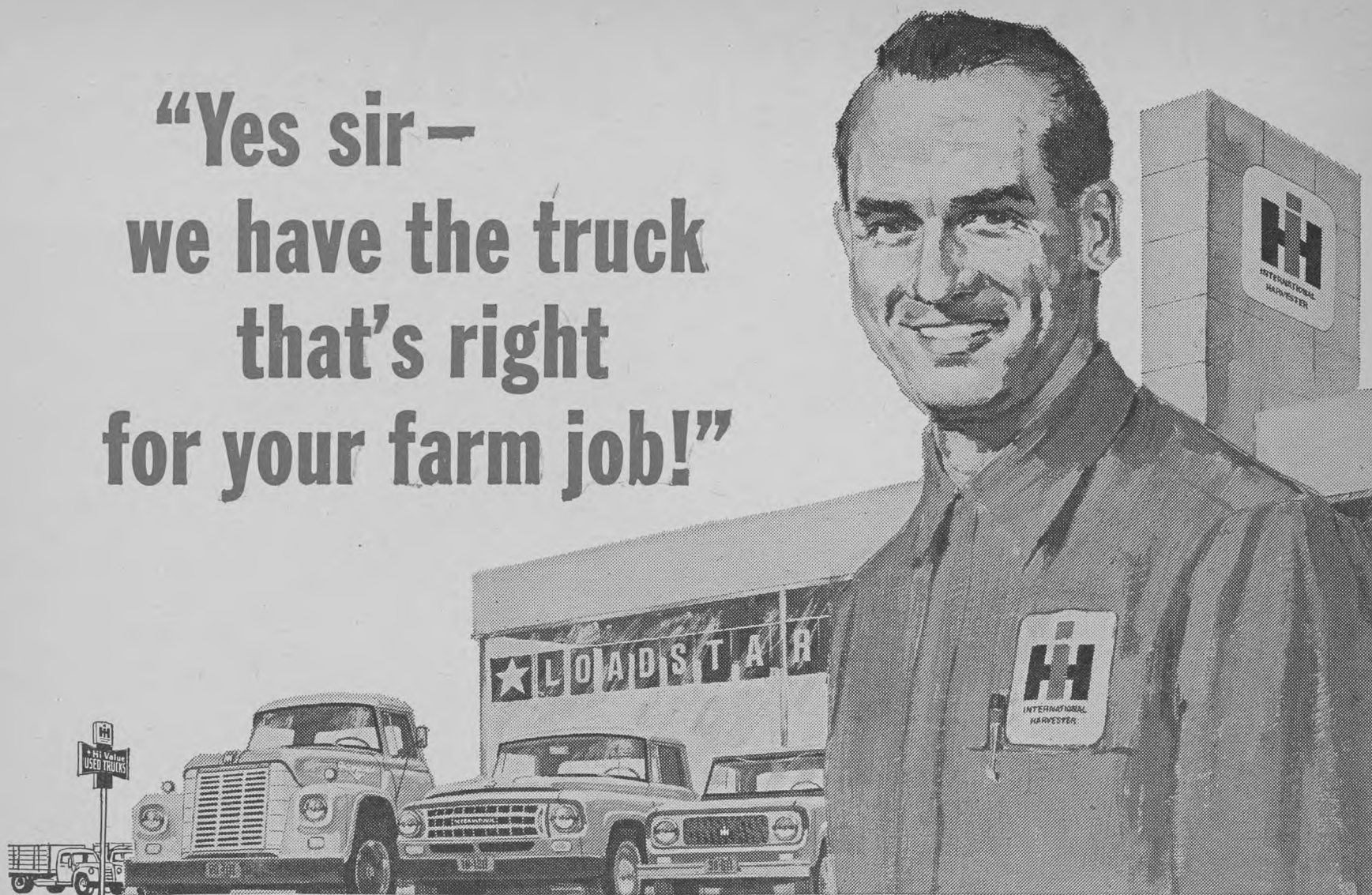
Another possible use for A.I. was recently suggested by Dr. M. E. Searle, of the University of Manitoba, in an address to the Ontario Swine Improvement Conference. He stated: "We should ascertain if breeds, other than those we have today, possess factors to contribute to increased performance. Foreign breeds may not be satisfactory for direct use in commercial production, but they may be incorporated as foundation stock into the development of new strains and breeds. This we should find out." A.I. could help make this possible.

It is now becoming apparent that through A.I. a genetic bank account can be established. Withdrawals from this account could be made routinely for sires of proven worth, or for strains of livestock which are not themselves desirable, but which can make some contribution to breed improvement.

The technical and scientific achievements made in animal breeding in postwar years indicate the potential. Further progress will largely depend upon what is economically feasible. Long-term semen storage on a large scale will be expensive, but such a semen bank could be the key to progress in livestock breeding in the years ahead. ✓



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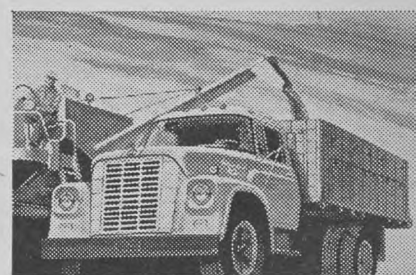
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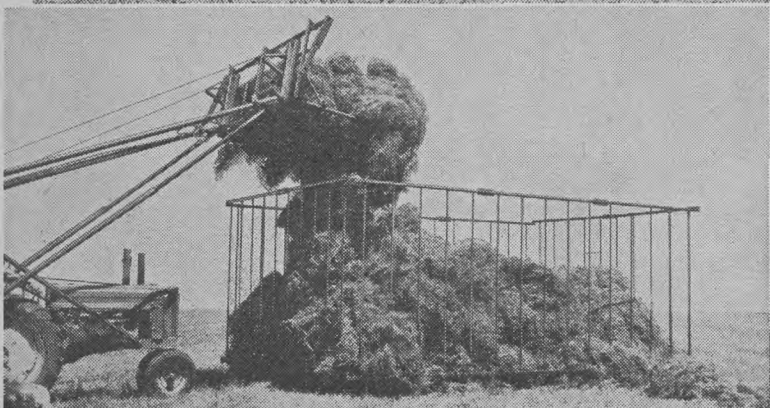


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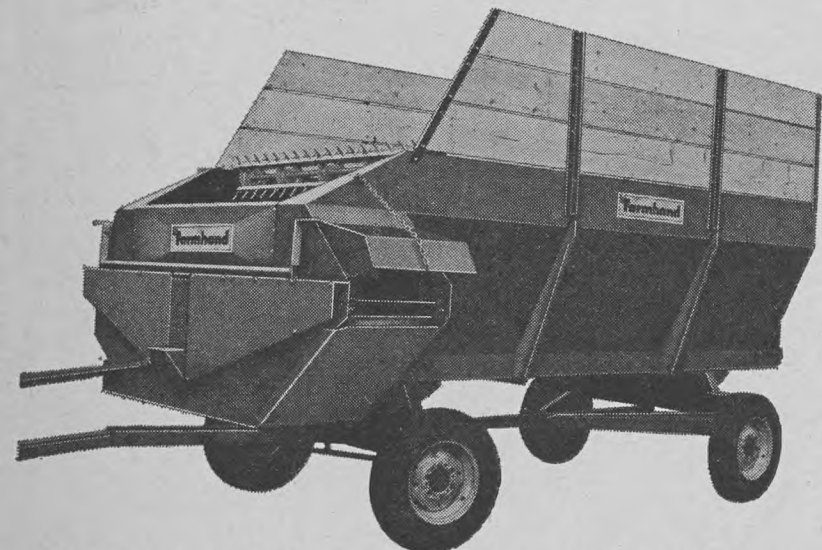


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# GUIDE POSTS

UP-TO-DATE  
FARM MARKET  
FORECASTS

**WHEAT EXPORTS** continue to mount, and if all goes well will reach 600 million bushels by the month-end. Adding the expected Canadian use of 155 million bushels, we would have a carryover of some 455 million bushels. This would be a reduction of some 30 million bushels from a year earlier, despite the record 1964 wheat crop.

**CURRENT IMPROVED HOG PRICES** should hold for at least another month or so. Increased pork consumption in Canada, an appreciably larger export of pork, and a sharp drop in the large pork imports of a year ago are taking care of the increased production.

**BARLEY EXPORTS** are several times those of last year and several million bushels more barley have gone into Canadian feeds as a replacement for U.S. corn. Thus the barley carryover in the new crop year will be down appreciably.

**EGG PRODUCERS** can look for a deficiency payment in September, as a result of the continued lower prices. Current estimates suggest a payment of 2½ cents to 3 cents a dozen up to a maximum of 4,000 dozen. Producers should make sure they have their grading slips so they can make application for the payment when the time comes.

**BROILER PRICES** should hold around present levels for the rest of the summer. Supplies are not showing such a large increase over last year as in the early months of 1964. However, unless the hatch is reduced soon, the late fall months will see a heavy surplus and price reductions.

**FED CATTLE PRICES** will show little improvement in next couple of months as prospective marketings both in Canada and the United States are large. Any upward movement of Canadian prices will only bring additional fat cattle from across the line.

**FEEDER CATTLE** prices will follow prices for choice finished cattle quite closely. The U.S. market for feeders will remain weak for some time. For this reason we cannot expect to move many to the U.S. unless prices are drastically lowered.

**CANADIAN TURKEY** supplies will be short for the Thanksgiving market. However, producers should not expect much price improvement as there is plenty of turkey in the U.S., and dealers will undoubtedly supplement local supplies with U.S. birds, particularly in the heavier weights.



We Need  
New Grading Standards

Dr. Howard Fredeen  
has devised a simple,  
accurate method  
of grading hogs.  
He says present  
standards are obsolete



[Guide photo

BEFORE WE LAUNCH a Canada-wide plan to improve the quality of our hogs we should bring our ROP and commercial grading standards up-to-date, says a leading geneticist. Dr. Howard Fredeen, head of animal and poultry breeding, Lacombe Experimental Farm, has expressed concern that the new committee on hog quality will lead to the creation of an "elite" class of hog based on present standards. These standards are out of touch with today's consumer demand.

Speaking to the ninth annual Stockmen's Day at the University of Saskatchewan recently, Dr. Fredeen described research conducted at Lacombe over the past 18 months on the measurement of hog carcass

quality. What they were looking for were live animal measurements, other than those now used in carcass grading and ROP, that would do a better job of predicting a hog's commercial value.

"In Canada, we have two yardsticks by which we measure carcass quality in pigs," said Dr. Fredeen. "One is our commercial hog grading system which provides for a market price structure based on expected commercial worth. The other is our ROP program for purebreds which gives detailed carcass information for use in the selective improvement of breeding stock.

"Both of these," he added, "were developed during a period when Britain was our most important out-

let for pork products, and are therefore gauged to British quality specifications. This situation has changed drastically. Today, our only export market of consequence is the United States. It's true that standards for commercial grading and ROP have also changed, but many people feel these changes haven't kept pace with consumer demand."

Dr. Fredeen carried out a survey, in co-operation with the University of Alberta and the C.D.A.'s Production and Marketing Branch. The survey was based on the carcasses of 482 pigs slaughtered at about 200 lb. live weight.

"Grade, sex, carcass weight, split carcass measurement of back fat thickness and length, and several carcass cross-section measurements, were recorded for each pig," Dr. Fredeen explained. "After all these had been taken, each carcass was separated into the five wholesale cuts of ham, loin, picnic, butt and belly. Each cut was weighed, trimmed and priced according to its going wholesale value so as to calculate the actual wholesale value in dollars per cwt. of untrimmed weight."

The carcasses averaged 39.0 per cent A's, 57.9 per cent B's and 3.1 per cent C's - which is pretty close to the Alberta average. As was expected, the females produced carcasses that were much superior to those from the barrows. Grade A's were longer (.7") and thinner (.14" in maximum shoulder fat, .15" in minimum back fat and .18" in maximum loin fat) than B carcasses. They averaged .37 square inch

more in loin muscle and .21 points higher in total ROP carcass score.

"Although these figures show that present grading standards do a reasonable job of separating carcasses for length and potential lean content," said Fredeen, "grade differences in per cent yield of trimmed cuts weren't spectacular. In fact, the A-B difference was about the same as the normal difference between male and female carcasses. If we simply graded our pigs for sex we'd get better percentages than we do under our present grading system.

"The poorest carcasses came from the male B's. The female B's were about equal to the male A's in carcass yield. In dollars and cents, the female-male dollar difference was slightly more than the Grade A-B differential. This is something to remember when you're feeding your hogs. Give your special attention to the barrows. The gilts will take care of themselves.


"And the averages we obtained in our tests don't tell the whole story. Per cent yield of lean cuts varied continuously from 67.7 per cent to 85.5 per cent, and there was a wide overlapping of per cent yield between the grades. This shows there is room for improvement in the grading procedures - improvement which could decrease the overlapping among grades and increase the difference between them."

Tests for commercial value gave just about the same results. The A-B grade difference in commercial value

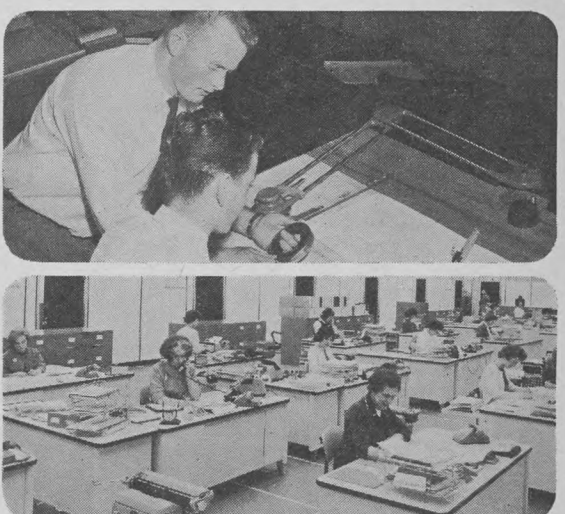
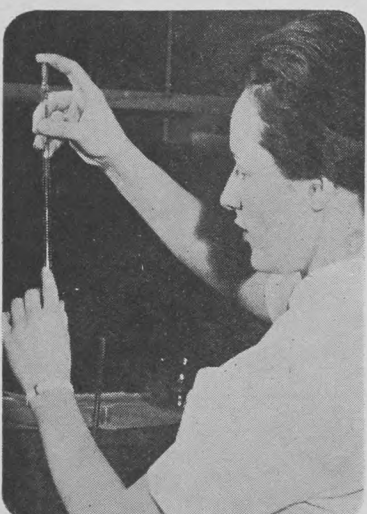
(Please turn to page 44)

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<b>Engineering Technology</b> (Courses Begin Sept. 10 Except As Shown) Architectural Technology Chemical Technology Drafting Technology		<b>Dental Programs</b> Dental Mechanic (Sept. 11) Dental Technicians (Sept. 11) Dental Assistant (Sept. 8-1 yr.)
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# News Highlights

Rates for shipping farm products by air are going down and as a result more farm exports are going by air. For instance, in the first 10 months of 1963, 20.2 million lb. of farm products were shipped by air from the United States compared to 15.1 million lb. in the same period of the previous year. Such products as eggs, meat, nursery stock and baby chicks are involved.

The day will come when man's food will be scientifically blended, just as animal rations are today, predicts Dr. R. P. Poirier, Dean of the Faculty of Agriculture, Laval University.

Price support for the 1964 sugar beet crop will be continued at last year's level of \$13.72 per standard ton of beets.

A long-term \$600,000 land buying program in Alberta has been initiated under terms of the Agricultural Rehabilitation and Development Act. Its purpose is to take out of cultivation lands that are better suited to grazing, forest production, recreation or other uses.

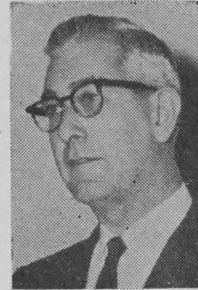
A 3-year trade agreement which involves grain sales has been signed between Canada and Hungary. It is the first such agreement between the two countries in the postwar period. Hungary, which is normally

a wheat exporter, is committed to buy 250,000 metric tons of either wheat or barley under the agreement.

Agriculture Minister Harry Hays plans to establish an export trade promotion showcase for Canadian purebred livestock at the Central Experimental Farm in Ottawa. The plan is to buy a representative group of all major livestock breeds and have them on display there so that buyers coming to Canada from abroad can see the kind of livestock Canadian breeders can offer to world markets.

According to the Canadian Seed Growers Association the total acreage in pedigreed crop production for 1963 was 16.8 per cent higher than in 1962. A total of 388,073 acres were granted Registered status and 99,568 acres were granted Certified status.

At its annual meeting at the University of Saskatchewan, the Canadian Seed Growers Association elected two new honorary life members. One is Dr. P. M. Simmonds, former head of the Plant Pathology section, Canada Department of Agriculture Research Station, Saskatoon. The other is R. E. McKenzie, of the Saskatchewan Wheat Pool, Regina.



E. T. McLaughlin

Mr. E. T. McLaughlin has been appointed secretary-manager of the Canadian Seed Growers Association. Mr. McLaughlin was associated with A. E. McKenzie Company, Ltd., in Toronto for 23 years.

Farmers in western Manitoba are using aircraft to spray pastures for the control of buckbrush, wolf willow, sage brush, and scrub poplar.

Ontario's fluid milk formula, on which prices to fluid milk producers are based has been modified. Now included in the formula is a factor to show the true demand for fluid milk as compared to total milk sales, and a factor which recognizes improved technology on farms producing milk.

The Ontario farm machinery advisory board reports that most major branches of farm machinery companies now have installed a telex system connection to their parent

company and other distributing branches across Canada and into the U.S. This should reduce delays in emergency part orders.

The Canadian Agricultural Chemicals Association warns farmers and vegetable growers against putting any additives into weed killers when spraying crops for weed control unless labeled directions on the herbicides specifically recommend this.

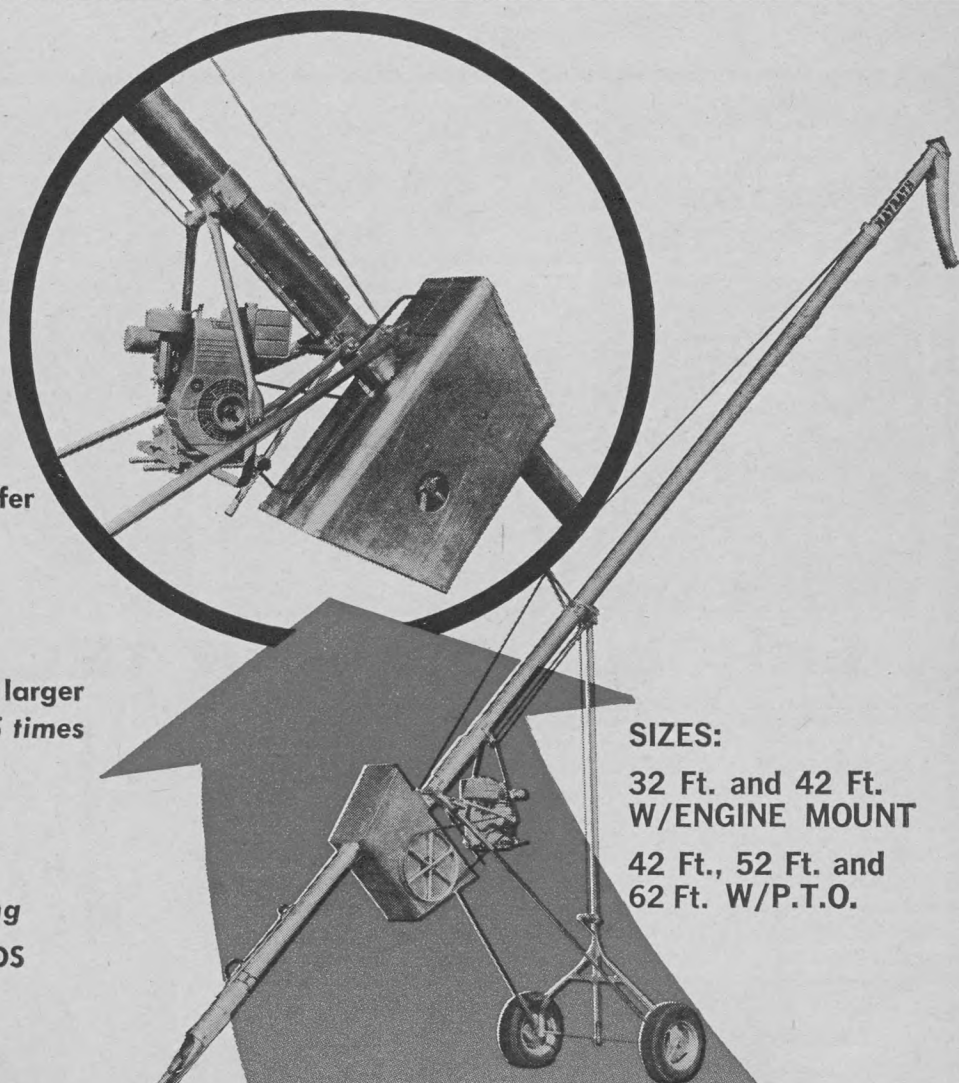
Mr. George E. O'Brien, former general manager of the Canadian Co-operative Wool Growers Limited, died recently in Toronto.

About two-thirds of all Canadian hogs could qualify for U.S. No. 1 class, according to a survey conducted by the United States Department of Agriculture. Only 5 per cent of Canadian hogs would grade U.S. No. 3, which are decidedly over-fat, compared to about 26 per cent of U.S. hogs. Average lard yield of Canadian pigs is 18 lb., compared to 31 lb. for U.S. hogs.

Two new PFRA community pastures being opened this year are unique inasmuch as they involve Indian reserve land. This is the first time in Canada that such land has been used for this purpose. The pastures are in Saskatchewan, one being north of Grenfell and the

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other north of Broadview. The Indian bands have co-operated in development of these pastures. They will benefit financially from them and in addition, the Indians have first rights to grazing privileges.

Newly appointed breed association secretaries are Murray Fretz of Guelph, of the Canadian Aberdeen-Angus Association, and Ken Foster, Calgary, of the Canadian Shorthorn Association.

Canada is co-operating with the United States in endeavoring to develop procedures for introducing animal blood lines from countries where the threat of certain diseases has prohibited the movement of livestock to North America. Agriculture Minister Hays says that the entry of blood lines from other countries could add to the efficiency of Canadian livestock. One possibility being considered is the importation of semen from males which have been tested in their country of origin.

The cost of supporting farm prices in Canada in the 1963-64 fiscal year under the Agricultural Stabilization Board has been estimated at \$73,776,000 which includes about \$30 million in losses from the sale of farm products purchased by the board prior to the last fiscal year.

A site has been chosen and preliminary planning is well underway for a building to house the new college of veterinary medicine on the Saskatoon campus of the University of Saskatchewan.

General Manager Bill Watson of the Royal Winter Fair expects his organization to initiate a major project to commemorate Canada's

centennial year. One possibility he suggests would be a national agricultural museum depicting the history of agriculture from the virgin forests to the modern farm.

A 2-year study is to be made under ARDA to find out how co-operatives can be fully developed to beef up Newfoundland's rural economy. The study is to be made by the Co-operative Union of Canada for the Newfoundland government.

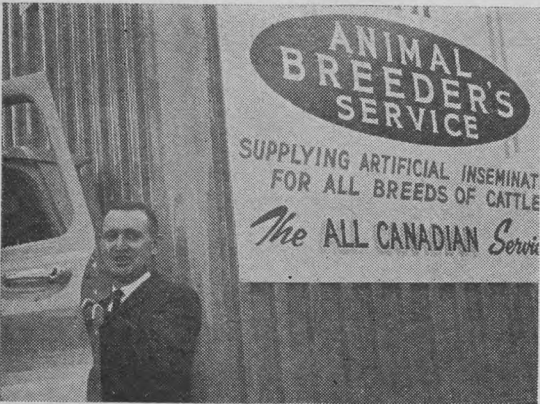
Saskatchewan Farmers Union President Roy Atkinson has termed the withdrawal of provincial government support from the Center for Community Studies "a matter for regret and deep concern." He said the work of the center has already been of great value in helping Saskatchewan's agricultural community to identify the real sources of the problems facing farmers in a complex and rapidly changing society.

Representatives of the Canadian Federation of Agriculture and the American Farm Bureau Federation held a day-long series of informal talks in Washington recently. Discussions centered on a wide range of farm policy matters and were led by the presidents of the two organizations, J. M. Bentley and Charles B. Shuman.

The government is preparing transportation legislation. A resolution has been introduced into the House of Commons outlining legislation which will be introduced to implement certain recommendations of the Royal Commission on Transportation. Interested groups will be given an opportunity to express their views on the legislation at the committee stage. V

# A Building for Breeders

*Made possible by co-operation between farmers, government and research*



Campbell Hughes will leave Guelph every 28 days on a 5,500-mile trip through Manitoba, Saskatchewan and Alberta. The truck will carry semen to breed 100,000 cows and liquid nitrogen for replenishing field containers

[Guide photo

COLLEGE CAMPUSES all over the country are sprouting new buildings; the new Breeders' Service Building at Guelph, Ont., differs from the rest in that it is entirely financed by farmers. The Ontario Association of Artificial Breeders has already chipped in \$100,000 for the new complex and will complete its obligations later this year. The concept, the actual building, and the use of the facilities, provide an excellent study in co-operation between A.I. organizations in Eastern and Western Canada and the Ontario government.

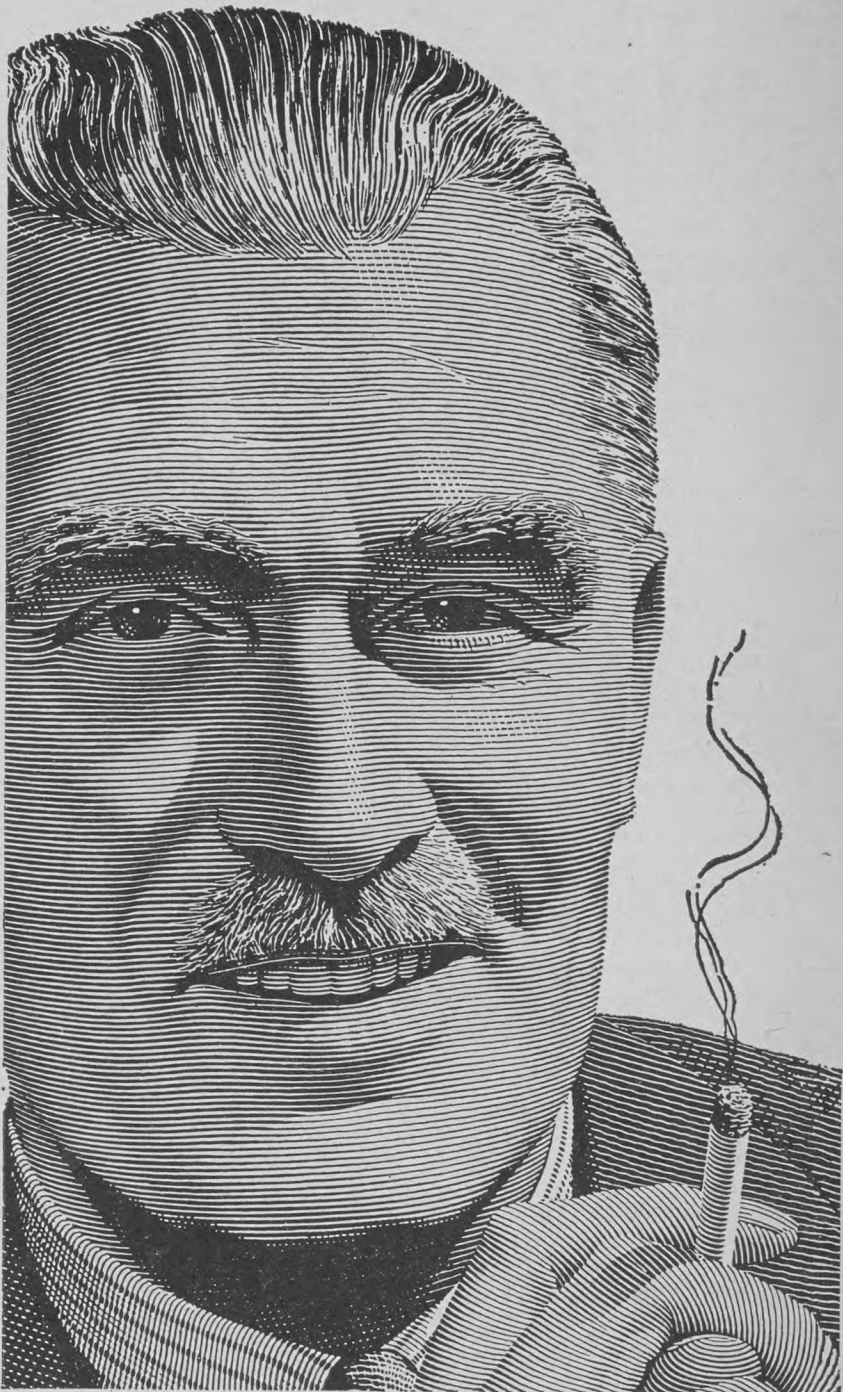
Stimulus for the new building came from the development of

frozen semen. Back in 1953 the first calf from such a mating was born in Canada. Since that time there have been many refinements which have resulted in longer storage and better conception rates.

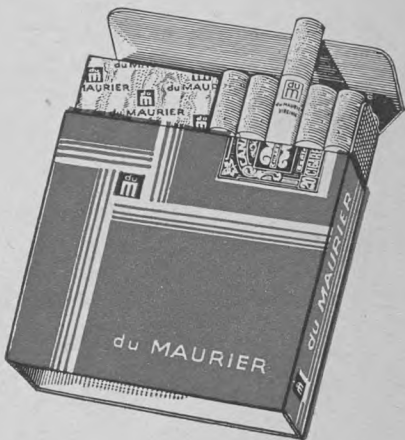
Semen is delivered to the new building from the seven co-operating bull studs in Ontario; the semen is evaluated, diluted and frozen in vials. This has become big business and scrupulously accurate records and identification have to be maintained at each phase of the operation.

Semen storage is provided in the (Please turn to page 44)

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# How to Carry MORE CATTLE on RANGE LAND

**BADEN CAMPBELL** of the Swift Current Experimental Farm has spoken for the entire ranching and cattle industry when he has stated at countless stockmen's meetings, "We must face up to the fact that we're going to need more grass."

It's true that today Canada's rangeland is being grazed to capacity. It cannot support more live-stock. But, according to rangeland scientists, its carrying capacity can be doubled by the adoption of better management practices.

The question to ask, is this: "How can that grass be produced?"

Range reseeding may become one of the most important methods. In the United States, this has become a normal practice. Ranchers there were forced into it because they allowed their ranges to get into far worse shape than ours are. The practice is under serious investigation in Canada today, but there are some perplexing problems.

Dr. Alex Johnston, of the CDA Research Station, Lethbridge, Alta., states: "On several occasions we have seeded cultivated forage crops into native range with a seed drill. We also drilled alfalfa into an existing stand of timothy, both with and without fertilizer. We saw the seeds germinate and the tiny seedlings start growth under the influence of spring rains, but they soon died because of competition from existing cover.

"But," he continued, "you shouldn't reject re-seeding because of this. In some cases, reseeding gives good results. Even after 10 years or more, you might find production is still as good as it

by  
**CLIFF FAULKNER**  
Field Editor

was from the original cover. Just remember that you can't maintain the big increases you get in the years right after reseeding unless you continually reseed, or perhaps fertilize. And to be effective, fertilizer needs good moisture conditions. Fertilization of natural range does show some promise for the future, but trials in Western Canada so far have produced erratic results."

Two methods being tested to reduce competition are chemical killing of existing cover, and deliberate overgrazing. One test underway is the killing of undesirable species with over-doses of chemical fertilizer. Killing becomes effective only when high rates of nitrogen, or nitrogen and phosphorus (400 to 500 lb. per acre), are used. Using fertilizer to kill has the added advantage of building up soil phosphorus so that a legume such as alfalfa might thrive.

In England, a chemical called paraquat has been used to destroy existing cover. Because of favorable moisture conditions there, it's possible to kill undesirable growth on a poor piece of pasture, resow with a ryegrass — white Dutch mixture, and be grazing the new stand in a month or so.

"Deliberate overgrazing may also help you establish a new stand," said Dr. Johnston. "We

**Five ways to improve the carrying capacity of range land, recommended by Drs. Alex Johnston and Don Wilson of the CDA Research Station, Lethbridge, Alta., are as follows:**

1. Make a more uniform use of grassland by relocation of fences, better salting practices and improved stock-watering facilities. It is estimated that the carrying capacity on two-thirds of Alberta's ranches could be increased 10 to 40 per cent by building more stock-watering facilities.
2. Integrate the use of range and crop land so as to provide alternative grazing areas at certain times of the year. This makes it possible to delay spring grazing until range grasses have had a chance to grow, and to safeguard winter ranges by holding cattle back from them.
3. Use chemical brush control where necessary. In some areas of Manitoba it is said that carrying capacities could be increased 200 to 300 per cent by wiping out western snowberry and wolf willow.
4. Put in irrigation where this can be done economically from existing stock-watering sources. Returns from range irrigation don't usually justify buying expensive irrigation equipment.
5. Reseed your ranges with better strains of grasses where this is practical. Reseeding results vary widely and large yield increases are generally short-lived, so don't expect reseeding to solve all your problems.

had some luck near Claresholm where alfalfa was drilled into a field of brome grass that had been heavily grazed by sheep. The sheep lessened brome competition to a point where a good catch of alfalfa was obtained."

Researchers at the CDA Range Experimental Farm, Kamloops, B.C., have been giving some attention to range reseeding too, especially in logged or burned-over areas. They have worked in co-operation with the B.C. Forest Service's Grazing Division which has established some fine grass stands on slash burn sites. The Provincial Government uses half the money obtained from grazing fees for range improvement. Free grass seed is being provided to livestock groups for reseeding work.

Experiments south of the border have shown that clear cutting of lodgepole pine stands, followed by a controlled burn and seeding with grass provides 5 to 6 years of grazing before forest growth begins to take over again.

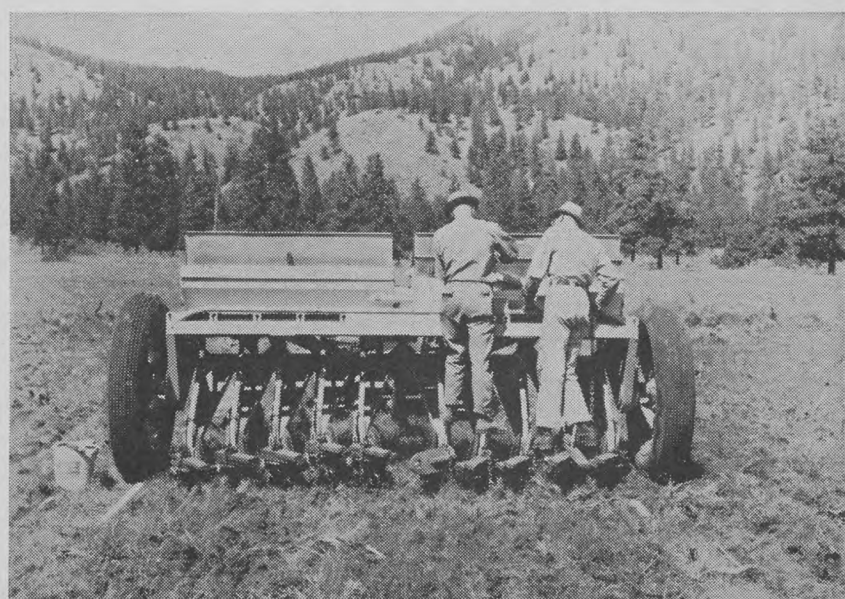
## NEW SEED DRILL

Range improvement received a boost when the U.S. Department of Agriculture designed a special range seed drill for its Forest Service. Through friends in the U.S. Service, the Kamloops Station obtained one of these machines



[B.C. Forest Service photo]

Pictured above is a year-old stand of grass that was sown on the site of a fire at Aspen Grove, B.C. The seed was sown at the rate of 4 lb. per acre



[CDA photo]

The special range seeder, borrowed from the U.S. Forest Service for tests conducted by Kamloops Range Experimental Farm, in action near Kamloops



on loan for 6 months so they could see the results and cost of reseeded when properly designed equipment is used.

"We know range reseeding can be successful," said Bill Pringle, Kamloops Range Experimental Farm, "but we've always lacked a machine capable of being used over a large area. The regular seeders we've been using kept falling apart."

The new machine is called a "deep furrow drill." It has 20-inch discs and each drill works on an independent arm which will flip up if the arm hits a rock or snag. The tires are liquid filled for added weight and stability—overall weight is 3,000 lb. The drills can be purchased in either 5-foot or 10-foot widths, which give 5 or 10 runs respectively, each a foot apart. Now in quantity production in California, these machines cost about \$3,000 apiece.

"The USDA is spending \$21 million over 6 years in a reseeding project near Vale, Oreg.," Bill said. "They use these range drills in tandem behind a Cat. In some areas they break the land first with a big disc, but in others the seed drill discs are all the breaking the land gets. You get better results from breaking but it is not always possible to do this."

Said Alistair McLean of the Kamloops Farm, "Livestock groups here would like to see the Provincial Government buy some of these special seed drills and lease them to

A few principles to follow when reseeded range:

- Don't try to reseed dry hillsides where even native species grow poorly. Select areas of heavier soil, or pieces of bottom land which get extra runoff. If you're going to spend money to reseed you may as well sow where you will get the best results.
- Remove competing vegetation, at least temporarily, until the new stand has a chance to get established.
- Use species and mixtures adapted to your site. Sow a grass-legume mixture rather than grass alone. This may increase your bloat hazard, but the extra yield warrants the additional risk.
- Seed before the season of maximum rainfall. Early fall seeding works well on the western prairies if there is a fair amount of moisture, and no grass-hoppers.
- Protect the new stand from grazing until the plants are well established. In the drier areas, this means no grazing the first year and careful grazing the second.

ranchers. This could be operated in much the same manner as the provincial land clearing service. In some areas, ranchers are following hard on the heels of logging operators with their little broadcast seed rigs."

Some B.C. range specialists feel that not enough attention is being paid to the potential of forest range. In many of the poorer timber sections, grass would bring a higher return than logs.

"People who oppose the seeding of logging slash say timber is more important than beef because it has to be processed and this provides jobs," said Bill Pringle, "but beef has to be processed too. And the value of beef isn't likely to drop as the value of timber might. Timber is getting a lot of competition from other materials these days. We're going to have to look on range grass as a valuable resource instead of just a by-product of non-arable land."

# High-Density Housing

*Environment-controlled buildings make it possible to cram four birds into each 12" x 20" cage*

by PETER LEWINGTON

Field Editor

**THERE IS NOTHING** backward about Adanac Farms, except for the name—it's Canada spelt backwards. It's one of this country's newest and most modern poultry farms. Located at St. Catharines, Ont., the farm is just coming into production. One 15,000-bird house is now in operation and two more are planned.

The 36' x 340' poultry house is a clear span building with steel exterior, plywood interior and 4 inches of insulation in the walls and 6 inches in the ceiling. Air intake is at one side of the building. Eight 18-inch and eight 36-inch thermostatically controlled fans are located on the other side.

A large handling area with a high capacity washer and a cool room is located at one end of the poultry house. Feed is stored in an elevated structure of 15 tons capacity.

The birds are housed in three long banks of stair-step cages which allow all droppings to fall directly to the floor. The water, feed and egg collection systems are all automatic, but they are all accessible to the aisles too, as a precaution against power failure. Total costs, with the exception of the land and the egg service area, exceeded \$90,000.

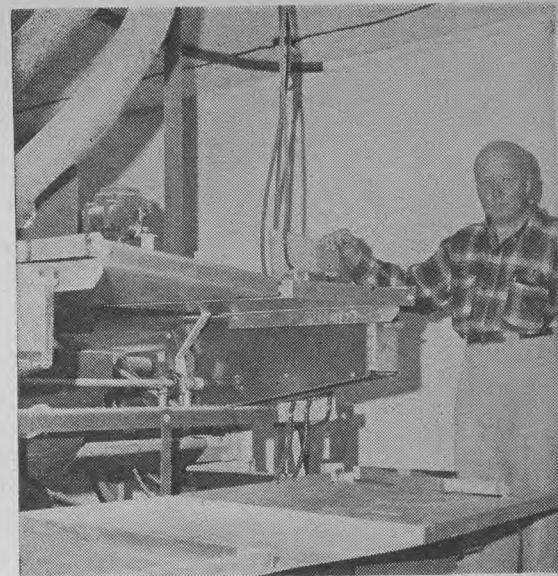
Alex Taylor, Adanac Farms manager, is impressed with the labor-saving features of the new house. "First thing every morning I walk up and down the rows and remove any sick or dead birds. I get a real keen check on each bird and sacrifice the few for the many. Then it's a question of good housekeeping—the floors, the fans, the light bulbs,

the water troughs and the egg gathering belts, all have to be kept clean. There is a danger of disease when the hens are so crowded. Even with the automation, it is necessary to watch the birds carefully."

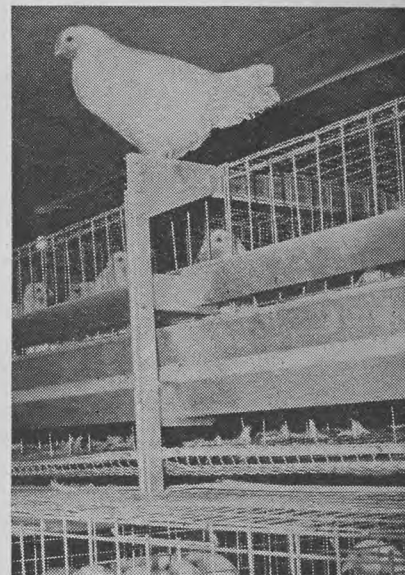
Automation is extended to manure removal, and Adanac has a ready market for the manure at a local vineyard. Boards of 2" x 6" size laid on edge keep the manure in the dropping area and also provide the track for the electric scrapers. These are operated twice daily and serve to reduce the moisture in the building and virtually eliminate ammonia fumes.

Automatic manure removal equipment obviously adds to the initial cost, but it has several important advantages, quite apart from the more pleasant working conditions which it makes possible. Reduced moisture should give the cages a longer life and will certainly increase the effectiveness of the ventilation system. Also, the birds should be healthier. Research at the University of Wisconsin has shown that levels of ammonia in poorly ventilated houses damage the respiratory tract of birds and make them more susceptible to virus infections.

With the advent of environment-controlled buildings, the capital cost of new structures has risen, and the Adanac building is no exception. However, the investment per bird has been kept down by increasing the density of birds within the house. Not too long ago, 4 square feet per bird was considered necessary in a floor house, but at Adanac, four birds are crammed



Farm Manager Alex Taylor merely flips a switch to clear the droppings from the 15,000-bird house



This lone hen appears to rate freedom above high-density housing

into each 12" x 20" cage so that each bird has a mere .41 sq. ft.

High density seems to be a worthwhile cost-cutting venture in our colder climate, which demands fairly expensive housing. Housing costs per bird can be reduced, if both ventilation and insulation are good. However, any such savings have to be weighed against more disease pressure, and the likelihood of higher mortality, and lower production. Also, as egg prices drop and feed prices rise feed conversion becomes more significant than building costs per bird and the high density house can become a liability.

High density housing requires alert management. The results which Alex Taylor, the genial manager of Adanac, is able to produce will interest poultry farmers contemplating high-density housing.

The farm is a pace-setter, not only in the production methods being used, but in its egg selling program too. Bob Stewart, one of three partners involved in Adanac Farms, has his own dairy. He has made a short color film of the hens at work, and is showing this at frequent intervals at the firm's busy dairy bar. It's a novel method of promoting increased egg sales. This is stiff competition for the farm flock owner, who is already wrestling with low returns. It does, however, further emphasize a changing concept in the poultry business — know your market before you get into production.



Standing room only—birds get .41 sq. ft. of space each. The stair-step layer cage arrangement has fully automatic systems for feed, water, egg collection and manure removal



# BIG PROBLEMS OF LITTLE PIGS

**How, where and at what price can good weanling pigs be obtained?**

by **PETER LEWINGTON**  
Field Editor



[Guide photos]  
How do you get pigs of this caliber? Best way is to raise them yourself or contract with some producer to raise them for you

**THE RECENT** National Hog Improvement Conference served to focus attention on one of the weak links in our swine industry—the big problems of little pigs. The problems range from high mortality to poor feed conversion and off-type hogs. They are complex, but they can be broken down like this:

- Weaner pigs offered for sale are usually of unknown quality.
- Unthrifty pigs and even ones known to have a disease are sold through sale barns.
- Scrub boars continue to be used by producers of weaner pigs, who expect someone else to finish the weaners to market weight.
- Probably one little pig in three fails to survive to weaning age.

These problems are more severe in some areas than others. They may be small in the Maritimes where few pigs are sold as weaners. The problem provinces are Alberta, Ontario and Quebec where there is a big trade in little pigs. Last year in Ontario alone 603,600 weanling pigs passed through community auction sales. In addition there is a trade in pigs by drovers and many are sold privately.

The hog feeder requires thrifty weanlings to compensate for the high cost of feed. He wants pigs that are free of such diseases as virus pneumonia and atrophic rhinitis, and of internal and external parasites. He wants pigs that are free of the stress and fatigue of extensive shipping. He also wants well-bred pigs that will grade well on full feed. He obviously wants a great deal in a weaner pig; if he is unwilling to pay for it he will have to settle for a lot less.

Many different swine programs are now designed to help meet this need for high quality feeders. Provincial programs range from boar premiums and Grade A competitions to specific pathogen-free programs and the development of elite herds. At least one breed association limits registration of purebred stock to animals which have proof of satisfactory performance. There is also interest in hybrid strains of hogs which can be produced from qualified purebred stock.

## FORMULA PRICE FOR WEANERS

Angus Campbell of Iona Station, Ont., told Ontario's hog producers at their annual meeting, "We all hear lots of complaints about hog quality but everybody lays the blame at someone else's feet. Breeders blame the producer of weaner pigs and he blames the breeder and the feeder." What Campbell suggested as a cure was a farmer-integrated swine industry. There would be five distinct groups: purebred breeders; breeders of

single crosses; breeders of three-way crosses; those who feed market hogs; and test stations.

These suggestions indicate that the swine industry is becoming highly specialized. Campbell suggested that the man who produced the three-way cross would sell by agreement to the feeder at a formula price. "One formula being used by weaner pig producers at present is this," he said. "Current market price x  $\frac{3}{4}$  x weight of the weaner plus \$5. On a \$27 market, this amounts to \$13.10 for a 40-lb. weaner."

The same view was expressed by one veterinarian with a large hog practice. He said a thrifty, healthy pig is worth a \$2 premium. He added that the day will come when only the healthy ones will make money. They will be the only ones raised.

How else can the big problems of little pigs be overcome? In Quebec, and more recently in Manitoba, some farm groups have begun to see the weaner pig as the key to success for farmer-owned packing plants. They say a source of quality weaner pigs is essential if the man who feeds market hogs is to be successful in providing the plant with enough hogs.

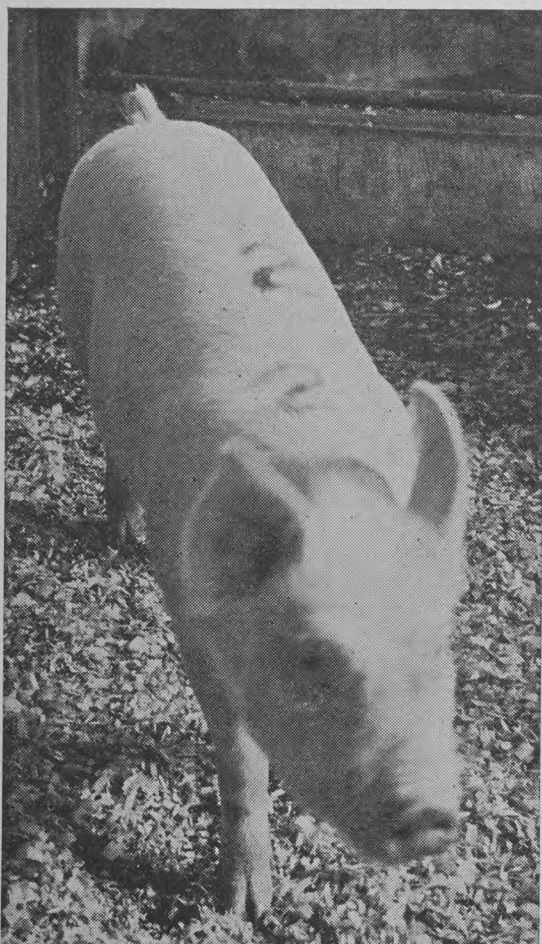
Does it take elaborate buildings to produce good hogs? Evidence at the Jacob Meyer farm at Ridgetown, Ont., indicates that good stock and good management are more important than the buildings. The Meyers are Swiss immigrants who blocked sugar beets and picked tomatoes to save enough to buy their first 10 sows and put up a cheap frame building. All the pigs from their 65 sows are sold as weaners—mostly to repeat customers.

## GROWS HIS OWN FEEDERS

In Kent County, Albert McCully believes that you have to control the whole hog production cycle on your own farm for maximum profits. "When you buy little pigs, you are apt to buy disease in the sub-clinical stage. If you do, poor feed conversion will rob you of profits."

McCully goes on: "I like separate barns for farrowing and finishing. I just can't see farrow-to-finish under one roof. In fact, if we expand in hogs, I'd rather have two smaller farrowing houses so that they can be cleaned periodically."

McCully exercises his sows twice a day and they soon learn to keep the farrowing pens clean. The clean up of the farrowing barn is done with hospital-like zeal. He is a poultryman as well as a hogman, and he found the value of emptying and cleaning up a house from time to time, when he first tried broilers in the early days. "I'd start 500 broilers each week, and I soon found I only



If little pigs sold through auctions were marked, then it would be possible to eventually eliminate diseased, overstressed, much-traveled animals



Hog cholera pigs passed through 11 community sales. The cost was over \$600,000 in compensation plus complete disruption of the swine industry over a large area



had 250 to sell. It is essential to break the disease cycle, whether you are raising hogs or poultry."

Another hogman who is dealing with hog problems is Doug Pardo of Cedar Springs, Ont. He is presently adapting an old barn for a farrowing house. After years of buying pigs, he is going to raise his own. This will reduce the number of hogs he markets from 1,500 to 1,000. He lists several reasons for changing:

- You can't make a profit on poor pigs, and good pigs are too expensive to buy.
- If you raise your own, you can select the best as breeders.
- An assured supply of feeders keeps the pens full.

#### SHIPPING SPREADS CHOLERA

Other problems also result from shipping weaner pigs around the country. For instance, it is regarded as a prime cause in the spread of hog cholera. In the 1960-61 outbreak, 57,416 swine were slaughtered and \$1,610,251 paid in compensation. The 1962 outbreak meant the loss of 19,190 swine and \$637,246 in compensation. Dr. Ken Wells, the Veterinary Director General, who is responsible for cleaning up the chaos caused by such "named" diseases as hog cholera, himself gets choleric at what he calls "Our crazy method of sales commissions and trucking." He says, "Either the pigs are sold too cheaply in the beginning or too dearly in the end. In the most recent outbreak, infected stock went through a total of 11 auction sales rings. How can a pig that has gone through several sales

and spent a week in a truck, have any chance?"

At the Regional Diagnostic Laboratory at Ridgetown, Dr. Reg Doidge has examined hogs which had changed hands five times on the trip from the Montreal area. "They didn't have cholera," says Doidge, "but they had just about everything else, especially pig pneumonia and atrophic rhinitis."

An Alberta brief to the National Hog Conference "expressed concern regarding inferior stock sold at auction markets. This includes weaners and bred sows. This situation suggests that there is room for a contractual relationship between breeders of weanling pigs, and commercial feeders and farm producers not wishing to maintain a breeding herd."

Both Ontario and Alberta have fairly extensive legislation governing the operation of auction markets and the veterinary inspection of livestock. In Ontario, hogs are the most numerous livestock sold through community sales. Are such sales a boon or a bogey? One tacit admission of the stress associated with such sales is the fact that special sale barn starter feeds are manufactured to offset the stress.

Ontario's Livestock Commissioner R. H. Graham speaks well of the co-operation of sale operators in implementing department regulations. "It is better," says Graham, "to sell through sales so that there are records of buyers. When a sale is quarantined, hogs are sold off trucks right on the highway and there is no record of where they go."

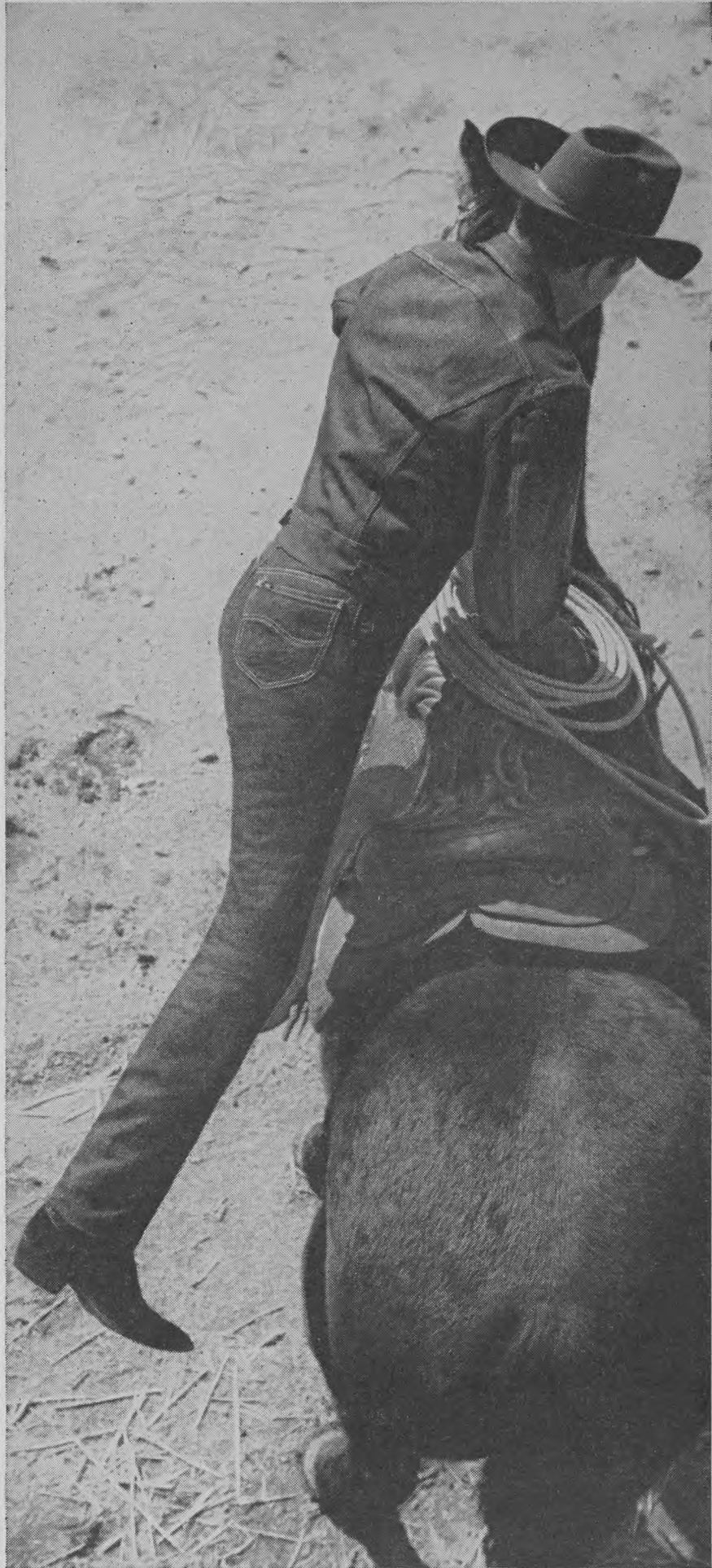
(Please turn to page 46)



"I'll raise my own pigs," says Doug Pardo, "then I can select my replacements on the basis of litter size, vigor, feed conversion and days to market."

Casey Tibbs riding the range on a stock ranch.

H. D. Lee Company, Inc., Kansas City, Mo.



## These pants were bred to pound leather

Created for ranch men, Lee Rider pants and jackets take the roughest spills without a snag, wear for years, and have the real Western look! City men were quick to discover Lee Riders. They give a man hip-hugging comfort with a slim, trim appearance—for heavy chores or easy leisure. Tight-twisted Lee denim is the world's toughest. You can wash Riders all you want—the deep-woven strength stays in! And they're Sanforized, so the fit stays, too. You'll like wearing ranch-born, rodeo-bred Lee Riders. Look for Lee, with the authentic branded label...soon.

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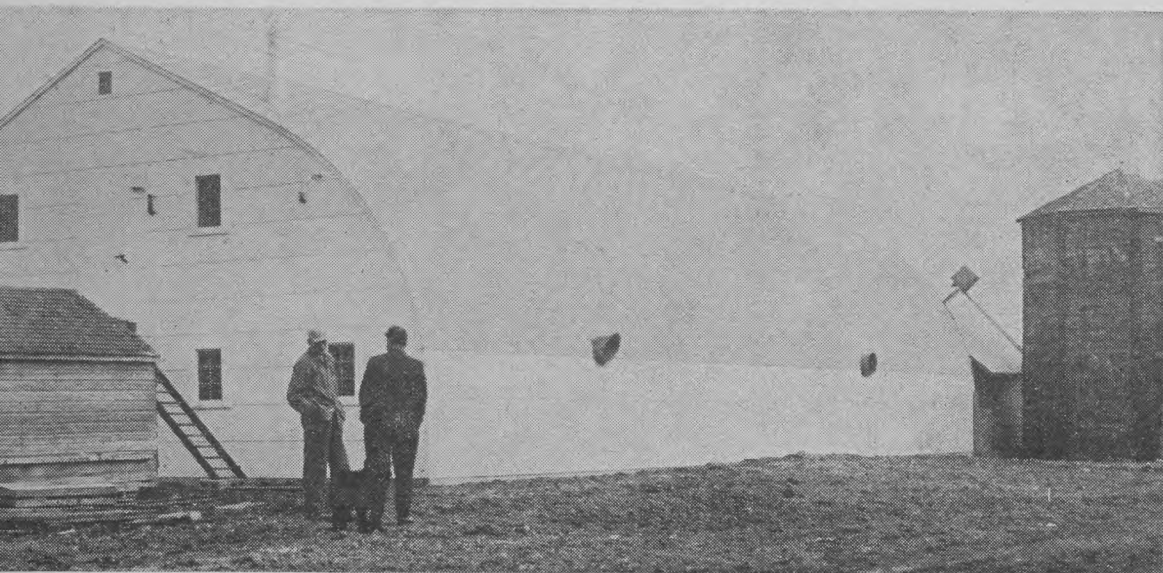


**A detailed look at**

# Hog Barn Design

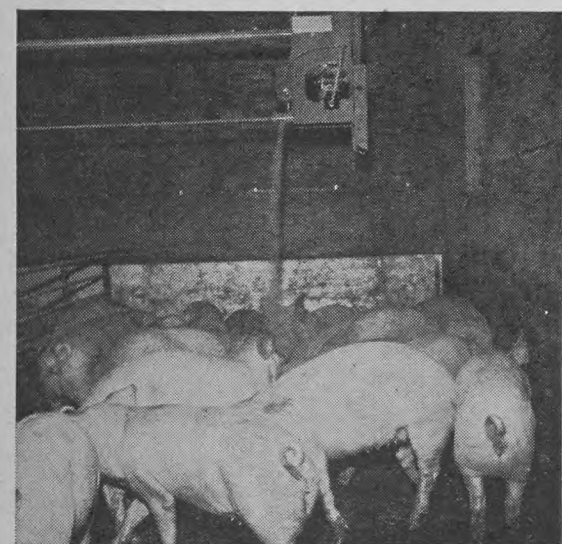
**A poorly designed barn can waste both money and time for its owner. That's why we offer a detailed look at three new hog barns. These were built by their owners after careful consultation with agricultural engineers and livestock specialists. Each of them has features that will be of interest to every hogman**

**by DONALD JOHNS**



Ed Morrow's 2-storey hog barn. The old silo holds feed augered to a mix mill housed at the barn entrance

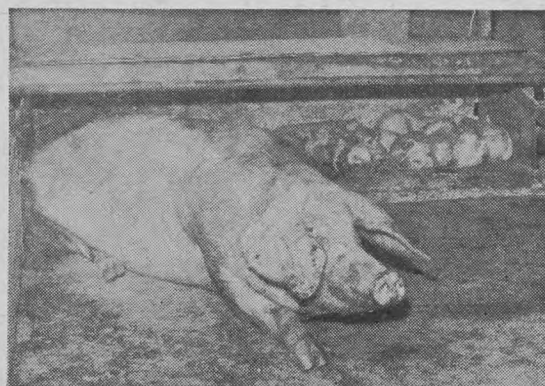
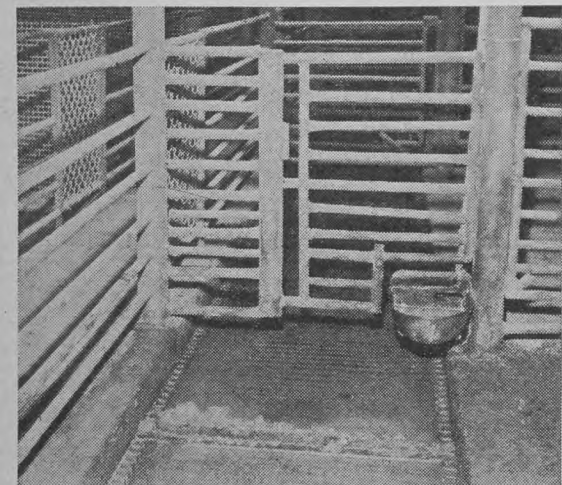
## 2-STOREY CONSTRUCTION



ED MORROW of Margaret, Man., can handle up to 1,500 market hogs per year with a minimum of attention in his new swine building. It's a \$16,000, 2-storey structure that measures 40 by 78 feet. In addition to the 2-storey design, it has other distinctive features. For instance, it has an offset center walk alley; continuous chain cleaners on each side of the walk alley; limited drop feeding; and partial underfloor heating from electric cable.

The 2-storey design was Ed's idea. He prefers it to a single floor structure with attached farrowing section, because it is cheaper to build (only one roof) and heat loss is reduced since heat from below helps to warm the upper storey. In addition, one manure pit serves the hogs on both floors. And in spite of some initial doubts by agricultural engineers, Morrow has had no trouble in taking sows up the ramp to the second floor farrowing pens or bringing the litters back down to the feeding pens.

The offset location of the 2½-foot wide walk alley has proven extremely important. First, by



placing it between the rows of pens rather than along each side wall, space is saved. Because it is 2½ feet to one side of the center — in accordance with recommendations of Manitoba's agricultural engineers — the pens on one side can be longer than those on the other side. In order to maintain the proper ratio of length to width, and not lose capacity, those pens holding the heavier hogs are longer and wider than the pens for the smaller hogs.

The manure handling system is interesting although the continuous wide chain cleaner is nothing new in itself. It was first adapted for hog barns about 3 years ago by Allan Arnott, a hog producer at Darlingford, about 90 miles southwest of Winnipeg, and has since spread widely over the prairies. In Ed Morrow's barn, the two cleaners in the finishing area are located on each side of the walk alley. The cleaner serving the smaller hogs is 2½ feet wide while the other is 3 feet wide. On the rare occasions when hogs miss the gutter, it is an easy matter to reach over and sweep out the manure. Water bowls are placed over gutters too and can be reached easily. The system requires little power. One drive mechanism powered by a one-quarter horsepower motor operates the two chains on the main floor and one on the second level. All chains dump into a manure pit below the floor level at one end of the barn. The pit measures 8 by 8 by 12 feet.

Morrow's barn is designed for a limited drop feeding system, and he says this permits him to use all his pen space without waste. "Self-feeders take up space and are more wasteful of feed."

Partial underfloor heating is a Morrow adaptation of Allan Arnott's initial idea. Sows and litters are moved from the farrowing crate to a small pen about 4 days after the litter is born. At one end of the pen, the floor is raised about 2½ inches above the pen floor, to provide a 2-foot wide platform extending the width of the pen. Heating cable laid in the cement warms it. Over the platform, he has placed a hinged lid. This retains the heat and protects the litter from the sow. According to Ed, 400 watts of electricity warms three pens 5½ feet wide. V



Ed Morrow shows off one of his weanlings. At 75 lb. it will be moved downstairs to the finishing section. The self-feeders in the background will be replaced soon by drop feeding units

Upper left: It's feeding time for this pen of hogs as the hopper empties during its 4-times-a-day cycle. Left: The 3-foot-wide gutter on one side of Ed Morrow's barn. Note the angle iron slat moving the manure toward the pit. Also, the off-center walk alley. Partitions of steel piping are homemade. Right: Young pigs are happy on the heated platform in the nursing pens. Note the cover over the heated platform



## A MULTI-UNIT BUILDING

**LLOYD MASSE'S** single-storey, multi-unit barn at Starbuck, Man., cost him \$22,000 to build. The structure measures 40 by 200 feet. It has a 40-foot farrowing section at one end, a feed room and finishing and dry sow section in the middle, (134 feet long) and 12 feet of pit area at the other end.

The farrowing section is heated by an oil furnace which is in the barn lobby. Lloyd plans to move the furnace to a concrete block satellite building since the air circulating in the barn when the fans are on, occasionally blows out the pilot light.

Pen partitions are made from fir planking. It may not look as neat as metal partitions but Lloyd claims it will be cheaper in the long run. "I can replace a worn plank pretty quickly and cheaply," he says. "If a metal partition wears, the whole section must be replaced."

Continuous chain cleaners, running at 1 foot per minute in gutters located against the side walls move out the manure. The angle iron slats on the cleaners are 12 feet apart.

One strong feature, in the opinion of Mani-

toba's consulting agricultural engineers, is the use of narrow, but relatively small pens for the heavier hogs. By keeping the small pens full all the time, the barn can be used to its maximum capacity. A drop-feeding system is used.

The manure pit which measures 40 by 12 by 8 feet deep, is emptied once a month, using an auger and a 1,000-gallon tank. The job takes about 6 hours. Why no lagoon? Lloyd replies, "Each ton of manure is worth \$2 on the land and each hog produces about 1 ton before being shipped. It's too valuable to waste. Besides, I have to live here, don't I?"

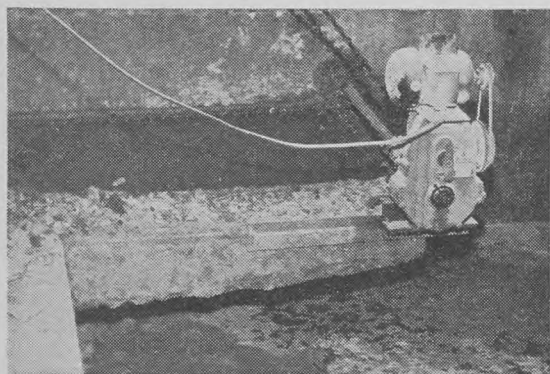
Lloyd grows the young hogs to about 75 lb. each in the heated farrowing section.

The 20 farrowing crates are made from used steel piping, and Lloyd estimates he saved \$50 cash per crate by making his own.

This young hog farmer raises 1,200 hogs per year in his new barn. Total labor requirements are only 3 hours per day. It's proof of how well he planned it, because before he built, he spent over an hour a day looking after less than 100 hogs. V



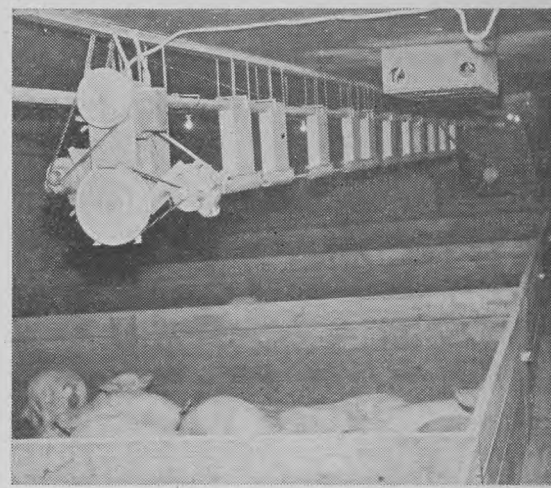
Lloyd Masse does some quick book work on the records he keeps on the litters from each sow



The chain drive assembly, powered by a 1/4 h.p. motor, overhanging 24,000-gallon manure pit



Farrowing crates are located, two to the pen, in separate barn. There is little confusion



Drop feeding system in Masse's barn. Note plank pen partitions and the ventilation deflecting box

## SLATTED FLOORS AND A LAGOON

**WHEN FRANK LEPP** of Manitou built his hog barn, he solved the manure handling problem by using slatted floors and a lagoon. The \$14,000 building has a center walkway. Each of the 19 pens is 13½ feet deep. The front 6 feet of each pen has slatted flooring. Capacity of the pens can be varied by increasing the widths. In shape, the pens range from narrow and long, to almost square. The barn, which is 112 feet long and 30 feet wide, has a capacity for 500 hogs at a time.

Self-feeders are used, with double units that each service two pens located near the outside walls on the solid concrete floor.

Ventilation is a strong feature of the Lepp barn. There is no ceiling in the 112 by 30 foot structure, so cold air inlets were installed in the peak. Cold air pours through these, down to the floor in the middle of the barn. This forces the hogs to stay on the solid floor area against the walls. Along the south wall are three windows each covered by a laminated and insulated sliding door. In the summer these windows are opened to allow a flow of fresh air over the pens. Fans in each end of the barn also maintain circulation.

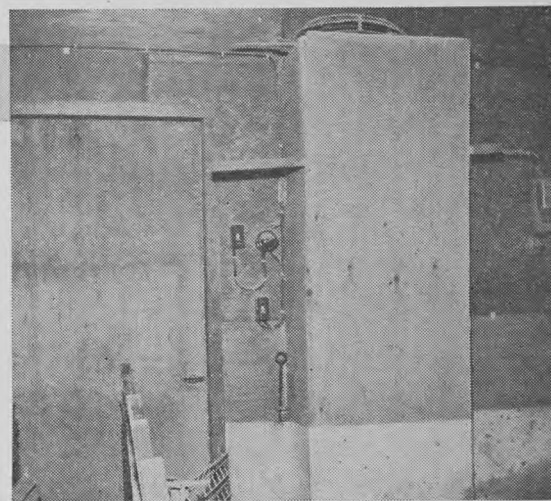
The pit under the slats has a 6-inch slope. To empty the pit, Frank opens an old wheel-type sewer valve, letting the effluent flow by gravity into a lagoon just behind the barn. The lagoon is 4 feet deep and about 60 feet wide by 80 feet long. The septic tank from the house empties into the pit in the hog barn and hence into the lagoon as well.

Agricultural engineers with the Manitoba Extension Service prefer the partially slatted floor to the completely slatted floor and Frank has

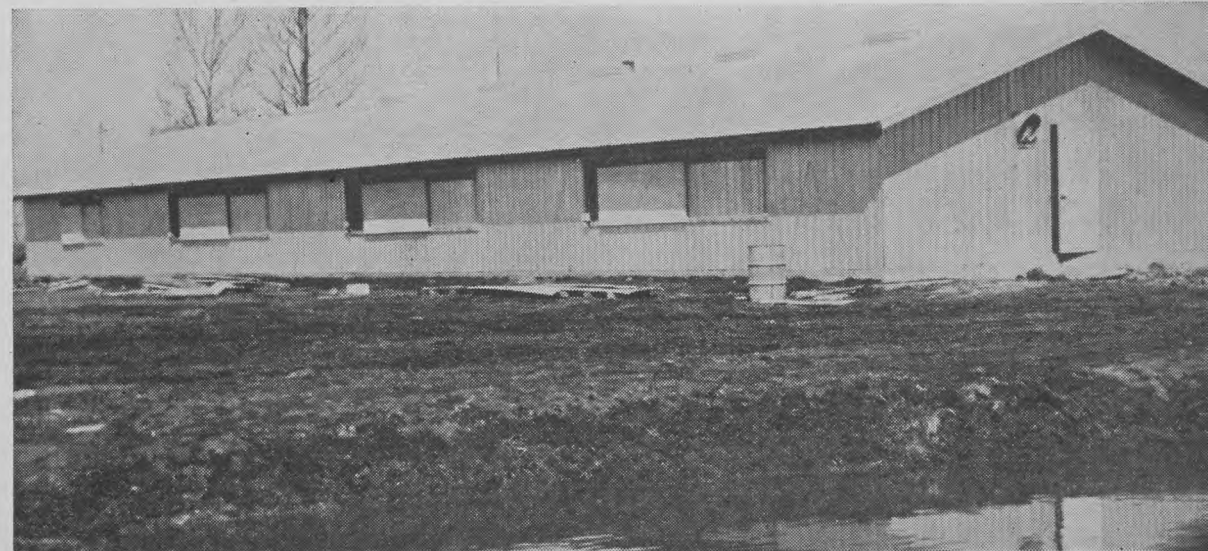
helped convince them partial slats are a good feature. They permit installation of drop-feeders above the solid floor to replace space-consuming self-feeders and give the hogs a solid, dry floor on which to rest during most of the day.

The engineers, however, prefer wide slats made from reinforced concrete. Slats from 3 to 5 inches wide are not harmful to the pig's feet whereas narrower slats can cause problems. Concrete is long wearing, while wood must be replaced about every 5 years. Approximate costs per square foot are \$1 for concrete, \$1.50 for steel and 70 cents for hardwood.

Frank Lepp farrows his sows in a converted cow barn 100 yards from the new building. V



Plywood duct extending from the pit under the floor of Frank Lepp's barn. The fan above draws the gases from the pit and pushes them outside



Frank Lepp's barn near Manitou with the lagoon in the foreground. Note the sliding laminated plywood sheets over the openings in the one wall. Each sheet is about 3 inches thick and well insulated



# Slatted Floors Revisited

**Less labor, fewer health problems, and increased hog turnover are benefits this hogman attributes to slatted floors**

**by PETER LEWINGTON**

Field Editor



[Guide photos

"If I build again," says McLean, "I'd have more slatted floor area for the sows"

**COUNTRY GUIDE** first visited Howard McLean at his Melbourne, Ont., farm in the fall of 1962 when he built a slatted floor hog finishing barn. By this spring McLean had learned a lot about a slatted floor operation and was still sufficiently enthusiastic to extend the idea to the farrowing barn.

The 82' x 30' hog finishing barn is well insulated and well ventilated and divided across its width by an 8-foot service area. On each side of the service area, and at right angles to it, runs a 2-foot passageway. There are 12 pens each measuring 12' x 13' and McLean has increased his capacity per pen to 30 hogs. This is considerably less floor area than was earlier thought practical. It is slightly over 5 square

feet per hog. The feed conversion McLean has achieved, and his average of 64 per cent grade A hogs, indicate that the reduced floor area allotted each hog has not lowered efficiency.

While the limited floor area which McLean allows per hog will surprise feeders accustomed to allowing far more space, confirmation of its efficiency comes from recently announced test results. At the CDA research station at Fredericton, hogs were finished to market weights while allowed 5, 7, 10, 20 or 30 square feet each. Feed conversion and carcass grade were comparable for each group.

One potential hazard with crowding the hogs is tail biting and McLean had one brief session of this. On the other hand, disease has been less of a problem than when he kept his hogs on concrete. However, he takes the precaution of operating the finishing barn on a batch system. One half of the barn is depopulated and cleaned before another group of hogs goes in for the 4 months feeding period. He keeps a total of 84 sows and some 68-70 of these are required to maintain the finishing barn in operation.

Selection of market hogs is facilitated by the construction of the commercial steel mesh pens. The sides of the pens can be swung either way as gates. "It is the easiest way to select and move pigs for market that you ever saw," says McLean. "Pigs can be driven along the narrow aisle and loaded at either end of the barn."

With hogs on a limited floor area, manure is soon tramped through the floors to the concrete area below. As a result, pigs and pens remain cleaner.

Manure is drained from the barn into the 8' x 8' x 50' concrete storage tank by opening an

8-inch outlet valve in each end. Capacity of this tank is 32 loads and McLean has been spreading one 1,000-gallon load to each acre. OAC Soil Science Department tests show that each 1,000 gallons of manure will contain some 37 lb. of nitrogen, 9 lb. of phosphorus and 25 lb. of potash.

McLean has found that if the manure pump is used to circulate the fluids while driving to the field, settling of the solids and consequent plugging are avoided. A dome-shaped baffle welded to the end of the discharge pipe spreads the manure over a 30-foot swath.

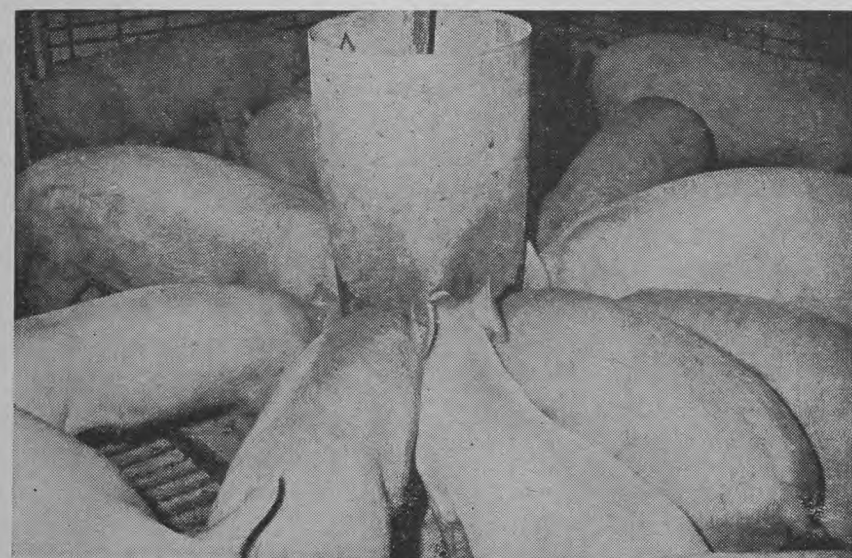
John Turnbull, extension engineer at Ridgetown, has a word of advice for anyone building a slatted floor finishing barn. "Two, and preferably 3 feet clearance below the slats is desirable. The concrete floor should be almost flat so that when the outlet valve is open, both solids and liquids flow to the tank. If the slope is too great, there is a danger of merely draining away the liquids. McLean allowed half an inch fall per foot.

Elated with the success of his finishing barn, McLean has tried slats for farrowing sows. Ten farrowing stalls have been erected in one half of an old barn. Cattle run in the other half to maintain heat in winter. The concrete flooring at the front of the farrowing pens is insulated and warmed by overhead electric heat bulbs. Slats make up the rear of each pen. Since it was not possible to get adequate fall in this old barn, an auger was installed beneath the slats.

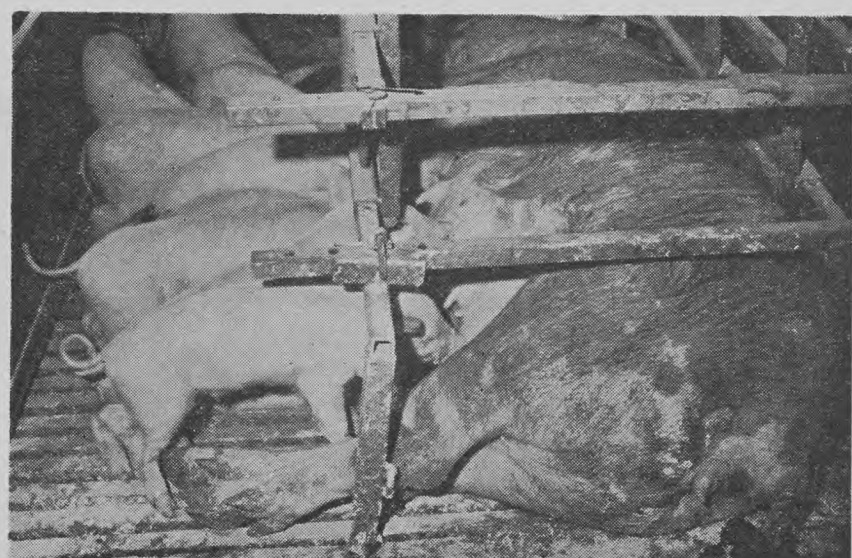
"If I were to build it again," says McLean, "I'd have slats for the entire back half of the farrowing pens. I would also slope the front of the pen to a gutter at the front to take away wastage from the water bowl."



The narrow aisle and the hinged pen partitions simplify the selection and movement of hogs



This is how a pen looks when you allow 5 square feet of floor area per hog



For Howard McLean the careful use of farrowing crates has proved successful



# Take to the Tents

**It's the best and  
the cheapest way  
to see North America**



[Guide photo

You can pitch camp near a mountain stream, cook a delectable, if smoky, stew on the open camp fire

EACH YEAR, MORE AND MORE farmers are taking holidays. The cheapest and the most rewarding way to spend your vacation might well be in a tent. You can tour with a tent, or just stake your claim to a quiet corner in a provincial or national park.

Such a vacation is not without its hazards, of course. Early in the season, hungry blackflies can be numerous. A more widespread hazard is man en masse — at peak periods of the year, major campgrounds assume the atmosphere of residential parking lots and have all the tranquility of a day with Britain's renowned song group, the Beatles.

Planning is required to avoid these inconveniences. Governments provide a wealth of information about available campsites, and major oil companies will help you plan routes for speedy or scenic travel.

With the recent upsurge of interest in tenting, a whole new industry has developed to provide the equipment needed. Tents have sewn-in floors and insect proof netting for doors and windows. They make a pleasant home away from home. Compact naphtha, or white gasoline stoves are ideal for camping trips. Lanterns of similar design provide adequate light for pitching tent after dark or for reading in the tent.

When you are packing don't forget such vital items as a tin for matches, a small first aid kit, an axe, clothing adequate for extreme temperatures, some rope, containers for food and water and a safety can for volatile cooking gasoline. Don't overlook your car insurance either or the additional insurance certificates required by several provinces.

You could spend a small fortune on equipment, but you can buy the basic requirements for only about \$100. Depreciate this over several years and the equipment is not hard to justify. If you have children who will want to camp out in the farm bush at other times of the year, so much the better.

As an alternative you may be able to rent camping gear at a cost of about \$25 per week. In some cases this might be applied to the purchase price if you subsequently decide to buy.

Be prepared for adverse weather. On one 3-week trip we encountered rain on 19 days and snow on 1. But even this unusual sequence failed to dampen our enjoyment. A violent snow storm on a Montana mountainside followed by torrential rain, provided a test of our endurance, of the qualities of our tent, and of our provident choice of a campsite!

Living costs shouldn't be much higher than if you are at home. You can carry travelers' cheques which are convenient and safe. A credit card takes care of gasoline, which is the big item

**by PETER LEWINGTON**

Field Editor

in touring. It can also be used for such untoward expenses as a new tire or battery.

In 6,000 miles last summer we had no problems on the road and met no discourtesy, although numerous signs exhorted care:

"Watch for falling rock!"

"Watch for fallen rock!"

"Watch for rock on road!"

"Watch for rolling rock!"

"Watch for slides," and finally "detour." Despite the warnings, a gaping hole in the guard rail at one point indicated that someone missed both the rocks and the road. However, no mountain road has the hazards of parts of such super highways as No. 401 in Ontario.

The great joys of touring with a tent (quite apart from the economy!) are the freedom to travel when and where you please, and the pleasure of just stopping off where the country is at its best.

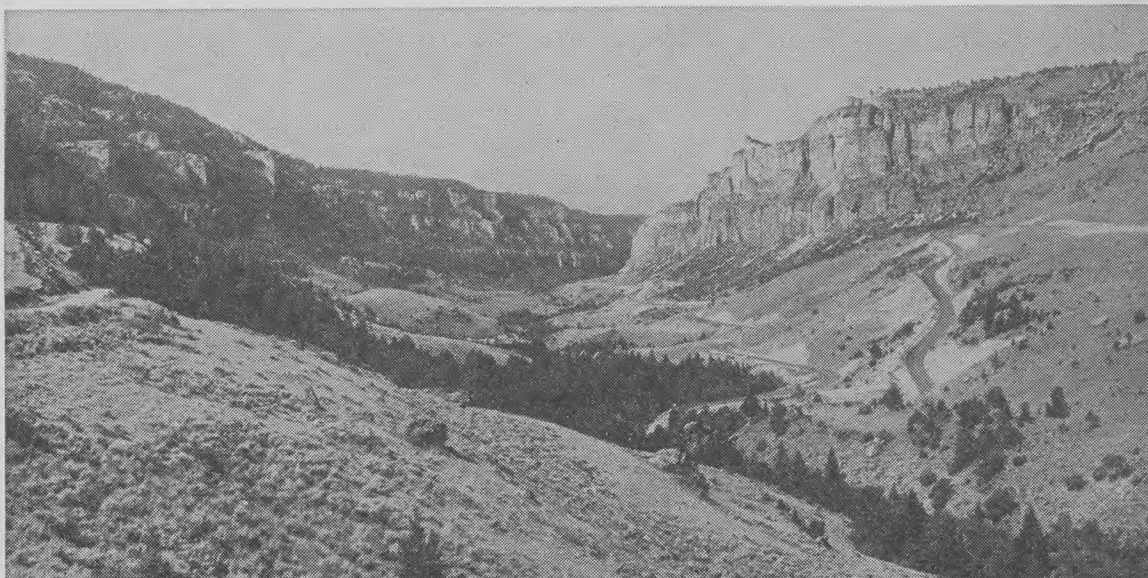
The choice of beauty spots is endless. You can travel the north shore of Lake Superior with its rugged grandeur and its exciting Kakabeka Falls. This latter is the "thundering water" of Indian legend where a captured Ojibway princess lured a war party of Sioux over the cascading waterfall. You can hike, or if you prefer, take a ride in the gondola to the impressive heights of Sulphur mountain in Alberta. As you travel, you may want to see how other people farm; or you may want to stop over at an agricultural research station

such as Summerland, B.C., or perhaps enjoy a peaceful and patient evening vigil at a beaver pond or a more energetic hike to the alpine meadows in the Rockies.

It's an old cliché that travel broadens the mind, but for the child in school, history and geography take on a new fascination after a look at the wealth of mineral deposits and the deserted ghost mines. The fishing industry and the hydro-electric power industry take on a new perspective after a tour of the Rocky Beach Dam, on the Columbia River in Washington State. There, fish, fighting their way upstream to spawn, must circumvent the impenetrable dam by scaling a 1,700-foot fish ladder. Salmon or trout are briefly visible in an observation window before, in their hundreds, they disappear upstream on their hereditary trip of no return. There too, can be found a record of David Thompson's epic 1,150-mile survey of the Columbia.

Travel on, in the steps of the intrepid Lewis and Clark, through the hills and ranges of Buffalo Bill. Eschew the oversold spectacles where the hand of man has worked for generations to despoil, commercialize and degrade. In contrast, the U.S. national forests provide some of the most isolated, peaceful and unspoiled opportunities for tenting still to be found.

In a bygone era, when the Indian enjoyed his own land, travel was measured in the nights spent on the trail. Ten Sleep, or 10 nights' sleep equidistant from two major campgrounds, is the sort of place to pitch your tent. You may find a pure mountain stream there. It will make the most luxurious hotel look a sad and tawdry place by comparison.



[Wyoming Travel Commission photo

Ten Sleep Canyon, pictured here, is one of North America's beauty spots. Campsites, a trailer area, and picnic grounds are maintained along U.S. Highway No. 16 by the United States Forest Service



## Control of the Heat Cycle

ALTHOUGH THE artificial insemination industry has been looking to beef cattle as a logical place to expand their business, progress has been limited by the physical problems involved in breeding range cattle artificially. However, this situ-

ation may change in the months ahead.

At the Ontario Agricultural College at Guelph, for instance, Dr. Tom Burgess has carried out some limited and strictly controlled tests in which he has suppressed the heat

cycle of cattle, by means of drugs. Once the drugs are withdrawn, the females come into heat. Then, they can all be inseminated at one time.

Extensive tests on farms in Ontario are planned for this year; the actual scope of these field tests will depend upon approval of drugs by Federal Food and Drug officials and also upon the ability of pharmaceu-

tical firms to produce the compounds in commercial quantities.

At present the estrus, or heat-inhibiting compounds are fed as a feed additive. The compounds when fed over a period of time—in some instances 6 weeks—cause a hormone substance to circulate in the bloodstream, thereby simulating conditions of pregnancy. On cessation of feeding, most of the cattle on test have come in heat within 96 hours. Conception rates have varied.

To be successful a compound would have to suppress heat in all cattle and permit them to come in heat, virtually simultaneously, and without any adverse effects upon complex breeding organs. Conception rates would have to be comparable to those obtainable by other methods.

For use on ranches, injections, if developed, would be more suitable than feed additives.

Just what are the potential advantages?

- The span of calving in a herd could be shortened and the cows bred to only the best bulls.

- Timely breeding would permit the best utilization of grazing land.

- Heat could be suppressed in pasture cattle which are too young to breed.

- Groups of dairy heifers could be bred at one time.

- Heifers in feedlots destined for beef would make more economical gains if heat is suppressed.

These several significant advantages explain the current widespread interest in heat suppression and heat synchronization. However, such research is still in the experimental stage. If, or as some workers in the field prefer to say, when, it becomes widely used on a commercial scale, it will have to be as yet another tool in good herd management. Heat synchronization will not be a cure-all for herds with a long drawn out calving span.—P.L.

## Gilts Produced Better Carcasses on Test

AN EXPERIMENT using a feeding device constructed by the engineering science department at the Ontario Agricultural College, Guelph, showed that limited feeding of swine reduced daily gains and carcass backfat but improved carcass length and loin eye size.

The feeder consisted of an auger-cup arrangement that simultaneously dropped a limited amount of feed to each pig in the pen. Stalls prevented fast eaters from consuming more than their share of feed.

One lot of pigs was fed a limited amount of high protein ration and another was "full fed" the same feed. The "full fed" pigs had a slightly better dressing percentage than the "limit fed" lot but there was no

## 3 STEP PROTECTION FOR BROILERS WITH GALLIMYCIN...



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Gallimycin is the proven bacteria fighter that protects your chicks from birth right up to the time they're ready for market. Gallimycin has shown itself to be effective in controlling PPLO which can lead to such common diseases as C-R-D, Synovitis, and Blue Comb.

Here is the three-step protection that Gallimycin can offer your chicks.

1



### GALLIMYCIN INJECTABLE:

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2



### GALLIMYCIN POULTRY FORMULA IMPROVED:

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Gallimycin Poultry Formula Improved is perfect for water proportioners and gravity flow systems.

3



### GALLIMYCIN-10:

Growing chicks will grow faster and stronger when you include Gallimycin-10 in their diet. When stronger doses are required because of disease, there is no need to cut down the calcium level of your birds' diet. Gallimycin-10's effectiveness is not limited by calcium.

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difference in the efficiency of gain between the two.

Another noted difference was in carcass quality. Gilts produced superior carcasses to barrows in both lots but there was a greater degree of carcass improvement in the barrows on limited feeding. This suggests that pigs should be sorted for feeding. The gilt groups can be "full fed" and the barrows "limit fed."

Severe limited feeding is not recommended as this can cause too great a depression in daily gains and stunt the growth of the pigs. ✓

## Individual Sow Feeding

THE TREND in swine management is to mechanized feeding, but some experienced and successful breeders are moving in the opposite direction. Here is why. Most of the cost of raising and maintaining brood sows lies in the feed. Free choice feeding is obviously wasteful.

Most restricted feeding programs have shortcomings, too. For instance, the average feed intake can be restricted but some sows may get more than necessary while others get less; or the average feed intake may be correct but the individual feed intake may be very inefficient. A better method may be to feed sows individually.

Eric Alderson, manager of McLeod Farms at Aurora, Ont., has been using this system, with good results. At feeding time, the sows are released from their pens and move into feeding stalls. A bar is dropped

to keep them there until the slowest feeder is finished. While the stalls are homemade from lumber they do increase the investment per sow and take up some barn room. Alderson cites these benefits which he feels far outweigh the additional expenses:

- Each sow is fed the correct amount, which varies with her condition and period of gestation.

- Greater feed efficiency. It is easier to pick out a sow which is off feed for any reason.

- Precise feeding care prior to farrowing completes a careful overall feeding program. Alderson is getting good, big thrifty litters which have a feed conversion rate of 3.02 lb. of feed per lb. of gain and over 80 per cent of the hogs marketed are grading "A."

There may be other benefits too. It may contribute to bigger and more uniform litters; and the chances of a sow being injured during feeding are eliminated. It is a practice in fact, which may be far more widely used.

Prof. R. P. Forshaw of Ontario Agricultural College says that savings in feed will quickly pay for the installation of individual sow feeders. In fact he is so interested that an individual feeding system is now being installed at the OAC. Feeders are installed in such a way that the feeding units can be used by several batches of sows during the day so that the cost per sow is reduced.

"Nursing sows," says Forshaw, "should be on full feed. For pregnant sows 4½ to 5 lb. of feed is a good

average amount but without the use of individual feeders the problem of the boss sow arises. Individual feeding overcomes this difficulty and also permits the best use of feed.

"Some sows will require only 4½ lb. daily while others will require amounts up to 10 lb. a day."—P.L. ✓

## Relief in Sight from Pasture Bloat

THE CAUSE of pasture bloat in cattle has been traced to a protein which is found in legumes and which is known as 18 S. The protein forms highly viscous foams in the rumen which trap fermentation gases. The animals, unable to get rid of the gases, soon become bloated.

The amount of the proteins in plants varies with species, maturity, weather and other factors. These findings should clear the way to development of an alfalfa variety that is non-bloating but which has all the desirable qualities of present varieties. The discovery has been made by Drs. J. M. McArthur and J. E. Miltmore of the Summerland, B.C., research station of the Canada Department of Agriculture. ✓

## Liquid Feeding

A LIQUID, high-protein feed additive is proving popular with some beef feeders and also with some dairy farmers. A mixture of molasses, urea, phosphoric acid and ethyl alcohol is fed, free choice, in place

of the usual concentrate feeds as a source of protein. Dairymen claim that it has evened out production and avoided those usual seasonal slumps. Beef feeders claim they can get along without concentrate while feeding less grain and more roughage, and still finish prime beef.

Last year, Albert Cloet, Waterford, Ont., gave his feedlot steers access to the liquid feed. Another group of steers was turned out to pasture and given a supplementary grain ration. The feedlot cattle made significantly faster gains. Cloet plans to put up more haylage this year and discontinue pasturing.

Farmers appear satisfied with the liquid feed. In contrast research people are less enthusiastic and say that it may be an expensive source of protein.—P.L. ✓

## Boar Premium Policy Changed

ONTARIO'S BOAR premium policy has been amended. To qualify for a premium, the dam of an approved boar must not only have a minimum carcass score of 75 points, she must also have completed her ROP test in 190 days or less. The sire of an approved boar, if tested under the ROP policy for swine, must have achieved an average of 75 points for carcass score on his test litters. The introduction of a maturity requirement is in keeping with the emphasis that commercial hogmen are placing on rate and efficiency of gain. ✓

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Vincent Soetaert, St. Albert, Alta., looks over some of his "Miracle"-fed hogs. His building has slatted floors and pit system for manure disposal.

Vincent Soetaert feeds "Miracle" complete feeds in his modern hog-feeding operation: "Miracle" Starter, Grower and Finisher. Future plans are for expansion from present capacity of 600 hogs, which he buys in as feeders from other farmers. He feels that "Miracle" quality and service have contributed greatly to his successful operation.





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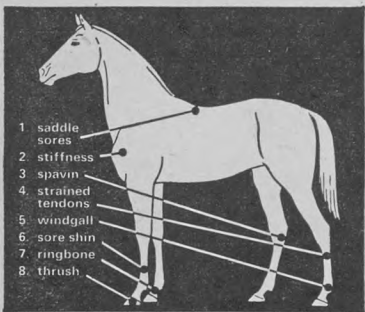
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# Soils and Crops

## A Longer Look at Herbicides

"WE HAVE ALL misunderstood both the value and the most desirable use of herbicides" in the opinion of Prof. George Jones of OAC Crop Science. "If weed control is limited to dumping some high power herbicide on the fields, without regard to other factors, then we are doomed to failure."

Last year, residual problems with atrazine showed up and dry weather inhibited its value. This year drought, cool weather and repeated night frosts have not only retarded corn growth but appear to be altering the desired effects of atrazine. Once again, residual effects are showing up in a variety of ways. Several causes are blamed including the planting of sensitive crops, dry weather, worn sprayer nozzles, overlapping in the driving, and wheel slippage on hillsides which caused heavy applications on the uphill run.

In order to offset these problems and to obtain good post-emergent weed kill in dry conditions, a technique which was experimental last year has been widely adopted this year. One pound of atrazine, active, per acre has been used with 15 gallon total carrier, 1½ gallons of which are a light grade mineral oil. This new adaption, besides reducing costs, achieves better penetration of weeds without the danger of residual effects in succeeding crops. Just how effective this technique will be remains to be conclusively proven; it is, however, apparent that the risk of damage by drift is greatly increased.

Where we have failed, according to Jones, is to integrate crop husbandry, plant genetics and herbicides.

The proper use of herbicides has emancipated the plant breeder; no longer is it necessary to build plants to combat weeds. In a weed free environment the plant can be open, erect and have only moderate foliage; emphasis can be put on yield. Herbicides and plant genetics are indivisible in the pursuit of economic yields and each of them has to be used in conjunction with crop husbandry.

These are the other ingredients in the Jones' crop recipe:

- Contain the weed problem by the absolute minimum of tillage that will make planting possible; each cultivation encourages a new crop of weeds to germinate.
- Plant population and the planting pattern are important; crabgrass escapes in 40-inch rows are serious, but are no problem in 18-inch rows.
- Use a "blow torch" policy, a combination of several herbicides in a chemical cocktail; preferably clean out all the weeds with a pre-emergent spray which has a subsequent selective effect.



The greatest blackbird damage is presently centered in the rich corn growing areas of southern Ontario which are near the marshy habitat favored by the birds

[CDA photo]

## The Black-Balled Blackbird

*He is a menace to corn growers but there is a bright side to him as well*

THE RED-WINGED blackbird, long regarded as a faithful harbinger of spring, is now being called a pest and a plague. This bird is the most prolific and widespread of the members of the loosely called blackbird family, which includes grackles and starlings. It particularly likes to feast on sweet corn and husking corn in the milk or early dough stage. Farmers who are growing susceptible crops adjacent to the marshy nesting and roosting areas frequented by the huge flocks, are the ones who are suffering from their depredations.

Ontario's Kent County farmers have suffered severe losses. They claim that seed corn and sweet canning corn are especially hard hit. In facing up to the problem, Ontario has recently announced a 5-year program of blackbird research and control. Corn grower and seed dealer Nap King of Chatham is one of the victims of the red-winged blackbird. He is fighting back too, endeavoring to scare the birds, especially in the early morning and the late afternoon.

However, King is one of the less vehement adversaries of the blackbird. "Perhaps," he reflects, "there is some connection between the increase in birds and the increase in root worms in the corn." The fact is, that for some farmers, the blackbird is indeed a very black fellow, but for those who take a more detached view, he is rather less black.

In a Manitoba study, blackbirds were shot at 2-week intervals to find out just what they had been eating. In May and June it was mostly waste grain and sunflower and weed seeds. In June and July, the diet changed to insects, grasshoppers and aphids. From August on, the diet again became a vegetable one and during this period there was some crop damage.

Ohio "stomach surveys" were somewhat similar and it was estimated that 69 per cent of the blackbirds' food was vegetable and the rest insects; ingestion of weed seeds and insects mitigated to some extent the corn damage. Curiously enough, caged birds, when fed on a

diet of corn or soybeans in controlled tests, all died within a span of 48 hours!

Meanwhile the blackbird battle goes on with a number of frightening devices: acetylene exploders, firecrackers, shotguns and .22 rifles. Ultrasonic sirens and the amplified distress calls of birds have been tried. The natural habitat of the birds has been changed in another attempt to outwit the birds. Chemicals having repellent and/or toxic effects have been tried.

The damage to growing and stored crops; the serious effects the huge flocks have when they descend on forests; and the hazard they present in the neighborhood of airfields; have all helped stimulate the search for an antidote for the blackbird problem.

Compounds have been developed which will sterilize both red-winged blackbirds and starlings. Two problems remain: the birds have to be induced to consume the treated feed; and they have to be fed in the winter time so that they become sterilized before the spring breeding season. As the birds are largely migrant, they would have to be treated in presently ill-defined areas far from where the crop damage may occur.

It is perhaps not an unmixed blessing that some answers still elude the research chemist.—P.L. V





## SOILS AND CROPS

### Big Market for Grain Corn

ACCORDING TO THE House of Seagram, this country uses over 100 million bushels of corn a year but produces only one-third of this amount. This means there is a huge market waiting for Canada's farmers if they want to grow corn. The above mentioned firm which, as a distillery, represents one of the largest single markets for corn, has launched a program to interest more farmers across the country in this crop. It has inaugurated an experimental program for growing hybrid corn varieties in New Brunswick, Quebec, Ontario, Manitoba and British Columbia. It has also begun to contract with more Canadian farmers for their corn crop. It also hopes, through its growing trials, to find the best varieties to be grown in various districts for distillery uses and to determine the best methods for handling and curing industrial corn.

In expanding this corn testing work, the firm has announced this spring that it will conduct grain corn crop development experiments in all provinces with the exception of Newfoundland. This means that it will be adding Saskatchewan, Alberta, Prince Edward Island and Nova Scotia to its program. ✓

### Fertilizers for Irrigated Forages

IF YOUR irrigated forage consists of both grasses and alfalfa, but it is not producing more than 3 tons of hay or 2 tons of dry feed as pasture, you can probably correct the condition with either more water or more fertilizer or both. This is the suggestion of M. R. Kilcher of the Experimental Farm, Swift Current, Sask. He says that grassland which produced 1 to 2 tons of feed without fertilizer has been boosted to 3 to 4 tons by the application of 200 to 300 lb. of 33.5-0-0 fertilizer per acre. This represents \$8 to \$12 worth of fertilizer which isn't a bad investment for 1 to 2 tons of extra feed per acre. ✓

### Birch Leaf Miner Insecticide

CYGON 2-E, which is said to be the only systemic insecticide of proved effectiveness against the birch leaf miner, is being sold across Canada this year. The new compound is applied by brushing it around the trunk of the plant. ✓

### Chemical Growth Regulators

AGRICULTURAL chemicals which can change the growth habits of plants and which are being referred to as plant growth regulators, have become a subject of interest in recent months. Scientists at the Ontario Agricultural College and other places are experimenting with these products this summer.

These plant growth regulators could be of significance to flower and

fruit growers as well as to cash crop growers in the years ahead. They can inhibit the growth of stored vegetables; bring fruit trees into bearing earlier, reduce the need to prune trees; and add to the obsolescence of the lawn mower.

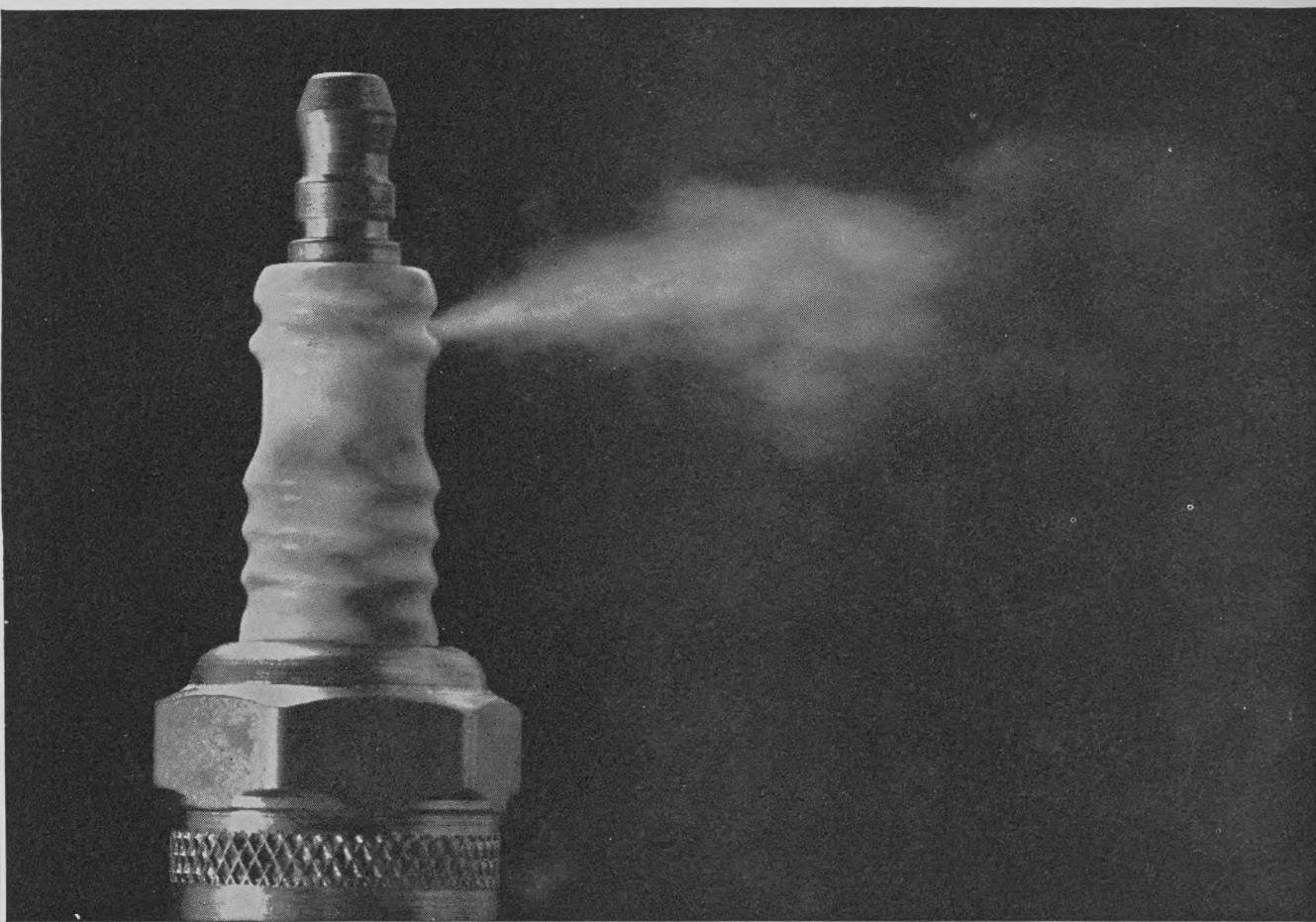
The regulators may prove useful by permitting growers to seed increased plant populations. When used this way, it may be best to use herbicides in conjunction with them. The regulators result in smaller plants and earlier blossoming and fruiting. This enables the

setting seed to make maximum use of sunlight early in the growing season. It also opens up the possibilities of production in areas where the climate presently makes production uneconomic or even impossible.

Exhaustive tests will have to be made in the use of these regulators before practical recommendations can be made for their use. In the case of their use on edible plants, it will be necessary to carry out toxicity tests as well. There is little indication yet as to how soon these regulators will be available for farm use, or if, in fact, they will be available. ✓

### Fertilizer Boosts Potato Yields

RESEARCHERS at the Indian Head Experimental Farm, Sask., found out last summer that heavy applications of both nitrogen and phosphate fertilizers will boost potato yields on irrigated land. Biggest yield of marketable potatoes was obtained with a combined application of 100 lb. of nitrogen and 100 lb. of phosphate per acre. The increase in yield over that of the check crop amounted to 168 bushels of potatoes per acre. When either nitrogen or phosphate alone were applied, yield increases were slight. ✓



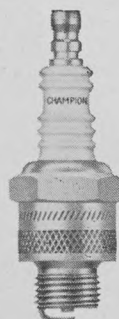
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## Dairying



Don Wright (left)  
and son, Everet

[Guide photo]

## Zero Grazing—For High Milk Production

*Irrigation and zero grazing enable this  
dairyman to handle 22 Holsteins on 20 acres*

WHEN AN IRISHMAN says he feeds "soilage" you can assume he means crops that come out of a trench, bunker or tower silo, but those of us who lack the true accent refer to green forage cut in the field and fed fresh to livestock. Another term for it is zero grazing, and experts are divided on the question of whether it is better to zero graze or to pasture.

Don M. Wright, who farms with his son, Everet, near Salmon Arm, B.C., prefers to feed soiling crops because he feels that less forage gets wasted that way. The fields also require less fencing.

By using irrigation and fertilizer, the Wrights keep their milking herd of 22 Holsteins going on 20 acres of mixed grasses during the normal pasture period. They get about four cuts a year. This is cut with a forage harvester and hauled to mangers in the exercise yard.

In winter, the animals are fed alfalfa hay, grain, and cull potatoes, all of which are produced on the farm. About 30 acres of alfalfa sup-

plies all their hay needs, and sometimes a little surplus which can be sold. A lot depends on the weather. The Wrights can take four crops of alfalfa hay if they can get the first cut off at the end of May or early June. They grow enough extra grain to provide a cash crop.

About eight acres of potatoes are grown each year. These are washed, graded and stored on the farm. Later, they are shipped to the Salmon River Potato Growers' Co-operative and sold through the B.C. Interior Vegetable Marketing Board.

The Wrights have about 125 acres cleared out of a total of 240 acres. Of the former, 15 acres were cleared last summer under provincial land clearing assistance. Clearing costs in the valley average from \$60 to \$65 an acre. Newly cleared land is sown to grass for the first year or so, then the roots are taken out so that potatoes or grain can be grown. A common practice in this area is to rotate crops of hay, grain and potatoes.—C.V.F. V

## New Treatment for Calf Scours

ALBERTA veterinarians report they can now save many calves which would formerly have died from scours by intravenously administering large quantities of fluids and salts over a period of hours. This treatment often necessitates leaving the animal at the clinic or office for a day or two but the results are well worth the trouble.

Dr. J. G. O'Donoghue, assistant director of the Field Services Division of the Alberta Veterinary Services Branch, says calves often die from scours because the diarrhea dehydrates the body of fluids and depletes its salt content.

If a problem is apparent, calves can be treated for scours at birth with commercial preparations designed for this purpose. Most calf scour preparations are combinations of vitamin A and antibiotic and sulfonamide compounds.

The condition of a calf at birth, which is influenced to a great extent by what it has received from its mother during pregnancy and from her first milk, is very important. Vitamin A has special significance here but it is too late to start supplementing cows' rations in March to protect calves which will be born in spring.

The role of vitamin A in preserving health is related to the changes that take place in epithelial tissue, says Dr. O'Donoghue. The digestive tract is lined with this type of tissue in which even minor changes make it possible for bacteria to break down the body defenses against disease.

Although calf scours cannot be attributed to any single cause, it is an infectious disease in that different types of germs or viruses are generally present. Viruses probably play an insignificant part in beef calf scours compared to their role in dairy calves suffering from the same disease. V



# Irrigation and Grass

200 acres of irrigated hay and pasture is the potent end of this ranching enterprise

WHEN PRAIRIE stockmen pay a visit to Ron King's Canyon Creek Ranch, south of Golden, B.C., the first thing they notice is the abundance of water. The ranch is located on alluvial land where Canyon Creek pours down out of the mighty Selkirk Range to join the Columbia River. As the creek leaves the mountains, it veers to the south around the main pastures and ranch buildings so that the property has running water on three sides. There is also a small spring-fed creek running through the middle.

Ron uses that water to boost his hay and pasture yields. The gentle slope of the land enables him to move the water down to lower pastures through a shallow ditch. Be-



[Guide photos] Built-on pole ramp for sliding sling loads of baled hay up into barn is one of the features of this hay rack

cause of the slope and the lightness of the soil, the water is spread through a sprinkler irrigation system. By using about 6 tons of commercial fertilizer a year he is able to get all his winter hay supply (about 8,000 bales) from 150 acres.

In addition to the hay land, Ron has 50 to 60 acres of cultivated pasture. The rest of Canyon Creek Ranch's 2,000 acres is forest and brush. In summer, his 240 polled Herefords range up into a wooded plateau.

With the help of his wife, Frances, Ron is able to run his ranch with a minimum of hired labor. They do all their own cultivating, seeding, cutting and baling. "A stand of grass only lasts about 10 years, then we have to reseed

it," said Ron. "We try to seed about 20 acres each year so we can keep ahead."

The Kings feed a mixture of alfalfa, brome, crested wheatgrass and oats. This is cut, baled and moved into their two storage barns with very little lifting. A bale loader puts the bales onto a sling on the floor of a special hay rack, much the same way goods are piled in a cargo sling at ship docks. Racks at the King ranch have pole ramps built at one end so as to provide a continuous ramp when a loaded rack is driven under the pole chute which projects from each hay barn. Each rack holds two sling loads or about 85 bales. Tractor power is used to slide the loaded slings up into the barn.

"Using this method we can stack the hay 22 feet high before we have to lift a bale," said Ron.

The Kings winter their cattle on straight hay. Winter feeding begins in the latter part of November and continues until the first week of April. The animals that are to be sold are turned right out on grass and kept there until September. They are shipped to Calgary via cattle liner, about a 4½-hour trip over the new Trans-Canada highway.

The bull battery consists of four polled Herefords, and cows are segregated in four fields. Heifers are kept 2 years before breeding so they will calve at 3 years of age. Ron found that he lost too many calves if heifers were bred too soon. Calving begins in April and continues until late June or early July.

Ron King's parents came to Calgary in 1890. They moved to Golden in 1892, where Mr. King operated a general store, mill, farm, pole camp and garage. He is still living there at the age of 85. Ron was born in Golden, and met Frances there while she was working as a nurse at Golden Hospital.

After serving a 5-year hitch with the army in World War II, Ron decided to try his hand at cattle ranching. With a bit of help from V.L.A. the Kings obtained the Canyon Creek site in 1947. They have two children, Judy 13, and Ron, 8.—C.V.F.

Ron King (right) explains irrigation set-up to a ranch visitor



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**Exclusive Healing Substance Proven To Shrink  
Hemorrhoids And Repair Damaged Tissue.**

A renowned research institute has found a unique healing substance with the ability to shrink hemorrhoids painlessly. It relieves itching and discomfort in minutes and speeds up healing of the injured, inflamed tissue.

In case after case, while gently relieving pain, actual reduction (shrinkage) took place.

Most important of all—results were so thorough that this improvement was maintained over a period of many months.

This was accomplished with a new healing substance (Bio-Dyne) which quickly helps heal injured cells and stimulates growth of new tissue.

Now Bio-Dyne is offered in ointment and suppository form called Preparation H. Ask for it at all drug stores—money back guarantee.

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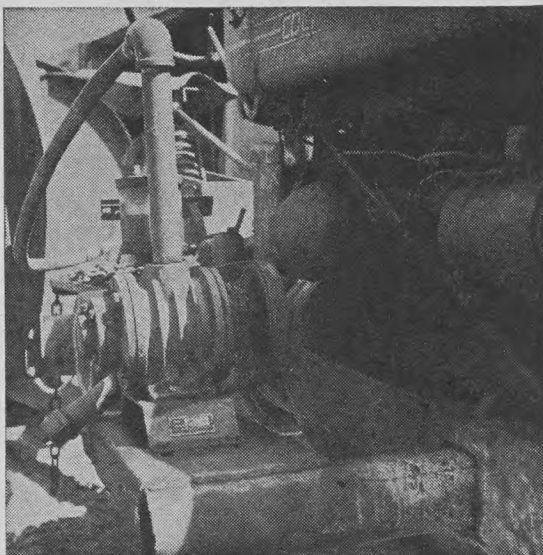
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WATERLOO ONTARIO

# Mechanics



**Bill Murphy  
rigged up this  
old milking machine  
on the side of  
his tractor  
to pump manure.  
The complete  
manure system  
including the tank  
cost \$500**

[Guide photo]

## Vacuum Pump for Manure

"THE DISPOSAL of liquid manure gave us our greatest problem," Dr. G. J. Hess, veterinarian and hog farmer of New Dundee, Ont., told the 1964 Ontario Swine Conference. Hess had contemplated a manure lagoon; when a \$1,600 evaluation was placed on the manure produced by his hogs each year, Hess decided to use the manure on corn and pasture land.

"Several methods worked quite well for spreading," says Hess. "The main problem is to get the manure into the vehicle, rather than out of it." Hess qualifies as some sort of an expert on the job, having tried four different methods.

- A rented diaphragm pump worked quite well. However, the pump would cost \$700 and it took 1 hour to fill a 1,500-gallon tank.

- An impeller type pump, designed for liquid manure, was discarded as it wouldn't pump solids. The cost of the pump and a 2-h.p. motor was \$200.

- A heavy gauge 4-inch auger required a 5-h.p. motor and had to

be run at 1,200 r.p.m. to lift the manure. The cost was \$250 and the system was discarded as it was both heavy and awkward to operate.

- The fourth system, and the one now in use, is a vacuum idea. This is simple and fills the tank in 40 minutes. Hess uses an old milking machine vacuum pump and put it in operation for \$150.

Other farmers who have slatted floor barns are in agreement with Hess that the vacuum system is the most efficient. Murray Smith of Thamesville built a vacuum system to handle the wastes from his laying flock and now finds that his services are in demand on a custom basis for cleaning hog barns.

"Most farmers," says Smith, "figured the thing to do was to get pigs into the barn and work out how to handle the manure afterwards. Then their problems really began!"

When handling poultry manure Smith found that blockages occurred with some equipment. The vacuum system will even handle feathers without blocking. Smith has now

cleaned out poultry and hog barns, even septic tanks, with his vacuum system. If the height of the tank is not excessive or the pit too deep or the manure too thick even 5 lb. of vacuum will do the job. "However," says Smith, "the larger the vacuum pump the better. If it will create 20 lb. you can suck anything." Smith uses an auger to agitate the manure in the pit before he starts removing the manure.

Bill Murphy at Aberfeldy mounted a used milking machine vacuum pump on his tractor and drives it from the belt pulley. The entire cost of the centrifugal pump, the mounting, a tank, 4-inch flexible hose and 4-inch snap-on coupling was \$500. "This is the answer to manure handling problems," says Murphy. He keeps the hose near the bottom of the manure pit and finds that this gives a more even consistency. The vacuum required is in the range of 8-14 lb.

Jim Goodhand at Alvinston finishes 700 hogs a year. He provided enough manure storage space so that two cleanings a year would do the job. Goodhand finds that 8 lb. of vacuum will remove water and 18 lb. is required for heavy material. Loading time ranges up to 30 minutes per tank depending upon the consistency of the manure.

Consensus of opinion is uniform. The vacuum system scores best for economy, speed, ease of operation and overall efficiency.—P.L. V

## Slats for Cattle

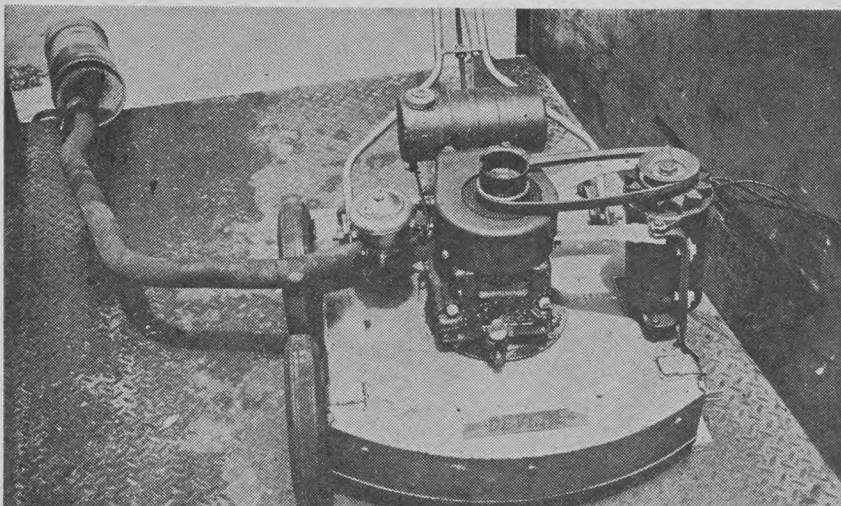
CATTLE FEEDERS are taking a leaf from the handbook of hogmen. They are trying slatted floors. Results are promising, too.

An Illinois farmer who tried it last fall reports a saving in cleaning time and labor. His system worked like this: A feed bunk ran along an inside wall. He laid a row of concrete slats parallel to the feed bunk, about 4½ feet from it. The slats, which were placed 1¼ inches apart, were 8 feet long, 5 inches wide and 5 inches deep, tapering slightly inward from top to bottom. The concrete slats were reinforced with a ½-inch steel rod. Under the slats was a pit about 5 feet deep with tiles draining to the outside of the building. The pit was emptied once every 4 months, and the manure hauled to nearby fields with a liquid spreader. V

## Machine Sheds Pay Off

A STUDY of 600 tractors reported by Burton S. Horne, Penn State University, showed year-round housing increased useful life almost a year and reduced repair cost 19 per cent. A similar study with 100 combines showed a 1½-year gain in useful life and 6 per cent reduction in repairs. He says hot sun and high temperatures in summer can cause almost as much damage to equipment as winter weather. V

## Emergency Electric Supply



A generator powered by a lawnmower can be transported quickly to any place where an emergency supply of electricity is needed. And if it's belted to a discarded automobile generator, it can charge a battery.

When you need the mower, the drive belt is easily removed, and also the auto muffler, which is used to insure a quieter operation.—S.C. V



# Horticulture

## Automation in B.C. Strawberry Patch

by L. JOHANNE STEMBO



A picker pauses for a cup of water. Pickers work side by side along the mobile platform. Foam rubber cushions help keep them comfortable as they work.

IN ONE B.C. STRAWBERRY patch, a converted, automated truck chassis with a platform 50 feet wide carries 28 pickers. The pickers rest face down in comparative comfort on plastic-covered foam rubber pads which leaves hands completely free for picking. A crate or flat rests between each pair of pickers. Pickers work 7-hour shifts and are paid according to total pounds picked in their crew. This averages about \$8 a shift. A heavy canvas canopy protects them from sun and weather.

The man in charge of this gas-driven vehicle checks to see that the rows are picked clean, removes the full flats to a forward platform and replaces them with empties. He also adjusts the vehicle speed, acts as water boy, operates the portable generator plant when darkness falls and generally keeps his pickers busy and happy.

Curtis Blundell, production manager for Fraser Valley Frozen Foods Limited, said the automated carrier was built along lines similar to several he had seen in nearby Washington State.

The carrier is working out well and Curtis expects it to pay for itself in 3 or 4 years. Basic cost for anyone wanting to duplicate this kind of equipment would depend on what the farmer had to begin with. Curtis said the ones he saw in Washington used the motive power of the combine.

Fraser Valley Frozen Foods, a local firm with an annual turnover near the \$5 million mark, operates the year round with local labor. A substantial amount of the processed crop comes from its own fields and gardens.

The big freeze begins with the strawberry crop. FVFF's 55 acres of strawberries yield between 5 and 7 tons per acre. Since good pickers are always at a premium, partic-

ularly at the height of the season, the harvest is sometimes in jeopardy. The carrier was built to overcome this problem. It moves forward between 6 inches and 2 feet per minute.

A portable generator plant supplies electricity for a series of lights so situated as to flood 14 rows at the exact point where the pickers' fingers reach out for the berries. With this artificial lighting it was possible to put strawberry picking on a shift basis.

Curtis believes strawberries to be one of the best cash crops going. He pointed out that last year the Canadian strawberry farmer had a 3¢ per pound advantage over his U.S. counterpart. He quoted market prices paid to the farmer: 12¢ per pound in Washington State and 15¢ per pound in British Columbia.

Curtis considers 15 to 20 acres an economic unit for a strawberry farmer. He listed irrigation of some type and adequate spraying for mold and rot as absolutely essential to produce a high yield crop. Fields at FVFF are sprayed five and sometimes six times during a season. When pickers finish with an area a boom sprinkler moves in as needed. V

### Feed Foliage Plants for Best Results

FOR HEALTHY FOLIAGE and flowering house plants horticulturists with the Ontario Department of Agriculture recommend the regular use of a complete fertilizer once plants are well established. They suggest fertilizers that contain nitrogen, phosphorus and potassium in well-balanced amounts.

Soluble fertilizers such as 20-20-20 or those of similar analysis applied at the rate of 1½ teaspoons

## Roll with the best!

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- Stockmen! For YOUR STOCK'

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- Slime conditions vanish from STOCK TROUGHS

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EASY TO USE! SO EFFECTIVE!

The SLIME-X Float becomes an active part of the surface water. Copper, the elements, and heat will all combine to destroy once and for all "Algae" or "Slime" with all the problems it poses in watering stock.

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Place four ounces of Slime-X Compound (supplied in proper amounts with the SLIME-X unit) in each trough containing 250 gallons of water. THIS IS THE ONLY TREATMENT REQUIRED. Then toss in the SLIME-X Float and let it take over. It floats on the surface and slime conditions cease from that point on. Available Now! Tested in over 1,500 installations. Order Now!

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In accordance with the Income Tax Act, this will advise our customers (including both members and non-members) as referred to in said Act, that in accordance with the terms and conditions, and within the times and limitations contained in the said Act, it is our intention to pay a dividend in proportion to the 1964-65 patronage out of the revenue of the 1964-65 taxation year, or out of such other funds as may be permitted by the said Act; and we hereby hold forth the prospect of the payment of patronage dividend to you accordingly.

The foregoing notice applies to grain delivered to this Company between August 1, 1964 and July 31, 1965.

UNITED GRAIN GROWERS LIMITED  
D. G. MILLER,  
Secretary.

July 6, 1964,  
Winnipeg, Manitoba.

## Don't Cut Corns Calluses, Warts Use New Magic Rub Off

Thousands of sufferers from laming corns, calluses, and common warts now report astonishing results with an amazing new formulation that rubs them off painlessly and safely without danger of infection from cutting, acids or abrasives. Secret is a wonder-working medicated creme called DERMA-SOFT that softens and dissolves those tormenting, hard to remove growths so that they rub right off, leaving skin silky smooth and soft. So don't suffer another minute. Get DERMA-SOFT at all druggists.

in 1 gallon of water are suitable. Brand name liquid or soluble crystal forms should be used as directed.

For best results apply fertilizer when the soil is moist. If the soil is dry, water the plants and allow them to drain before the application. Well-established plants may be fertilized every 2 to 3 weeks. A word of warning: if fertilizer gets on the foliage, wash it off quickly to prevent burning. ✓

## Hormone Helps Root Cuttings

EARLY JULY is the best time to successfully root cuttings from trees and shrubs.

Use the tips of branches in active growth says Dr. M. Kawase of the CDA's experimental farm at Morden, Man., and stimulate rooting with such commercial preparations of plant hormone as Stimroot, Auxan or Hordodin. ✓

At Morden a mixture of 500 to 2,000 parts of hormone per million parts of talc filler gave excellent rootings of cuttings from such shrubs as Japanese quince, honeysuckle, elder and spirea. For those that root with difficulty, such as maple, apple, spruce and pine, best results were obtained when the strength of the mixture was increased to 10,000 to 20,000 parts of hormone per million parts of talc.

Some trees, notably birch, are very difficult to propagate by cuttings and hormone stimulation is being applied to them experimentally.

Dr. Kawase found that it was preferable to apply the hormones in powder form, with talc as the filler. He warned against hormones applied in solution, pointing out that this method might contribute to the transfer of plant diseases due to fungi or bacteria from diseased tissue to healthy plants. ✓

## Philodendrons Thrive with Proper Care

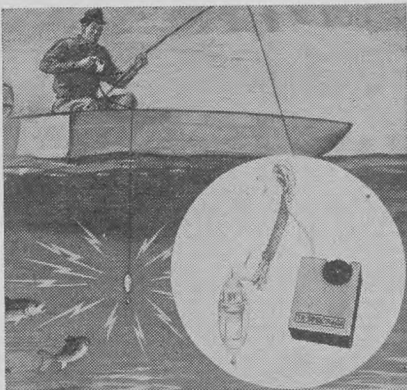
IF YOUR philodendron has small leaves and a straggly appearance, horticulturists with the Ontario Department of Agriculture suggest that it be cut back and repotted. Don't plant it in an over-size pot, they say, and don't overwater. Philodendrons should be kept moderately moist, not saturated.

While philodendrons do not like waterlogged soil they will grow in water. However, once cuttings have roots 1½ to 2 inches long they should be potted.

Varieties grown on stakes or trellises should be tied to these supports with soft string or paper-covered wire.

To show the philodendron's glossy leaves to advantage, wipe them once a month with a cloth or sponge dampened with soapy water. ✓

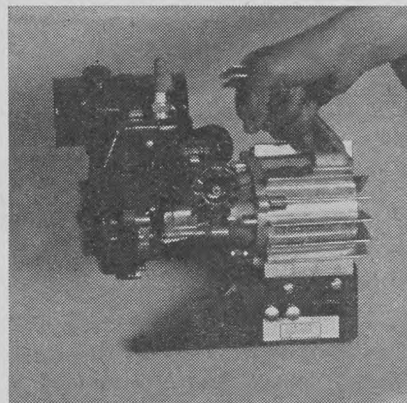
## What's New



### Fish Call

Sonic oscillations and light waves are used to attract fish to your fishing spot with the TR-Sonic Fish Call. These transistorized units attract fish for 200-300 yards from the source. (Chapman Sales Company) (468) ✓

### Electricity Anywhere



The Amp-Champ provides electricity anywhere. The unit weighs only 12 lb. and has a carrying handle. It has a precision gasoline engine with a military type alternator to generate electricity. It produces 3 kinds of power from 3 outlets — 115 volts AC, 115 volts DC, 12 volts DC. It can be used for yard work or taken on camping or boating trips. (United Distributing) (469) ✓

### Aircrop Converter



You can convert your high pressure sprayer to an air type spraying unit economically by using the John Bean 20 RC or 10 RC converter. The inverted teardrop head provides a "tumbleweed" spray pattern and does away with internal deflectors. The attachments rotate 210 degrees to adjust for wind conditions and are easily adapted to orchard spraying.—(F.M.C. Corp.) (470) ✓

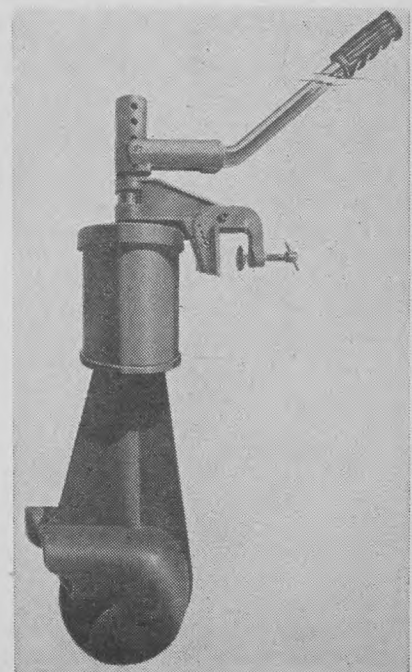
### Electric Fishing Motor

This electric fishing motor uses the prop jet principle. This means you can patrol shallow fishing waters without weed clogging or propellor damage. The motor operates from a 12-volt car battery, has 360° steering and weighs only 24 lb. A 2-year guarantee is included. (Lawrence Mfg. Co.) (472) ✓



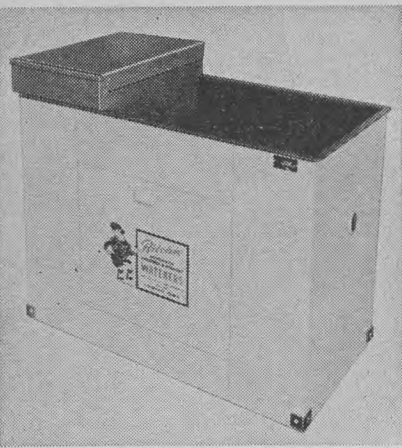
### Farm Welder

The new Trojan AC transformer type arc welder has been designed especially for the farm shop with the beginner in mind. This versatile unit assures equal welding performance even where line voltage is low. Shown is standard equipment with the unit. (Hobart Bros. Company) (471) ✓



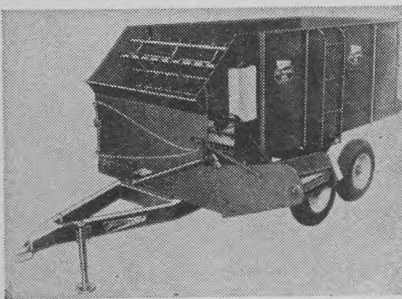


## Automatic Cattle Waterer

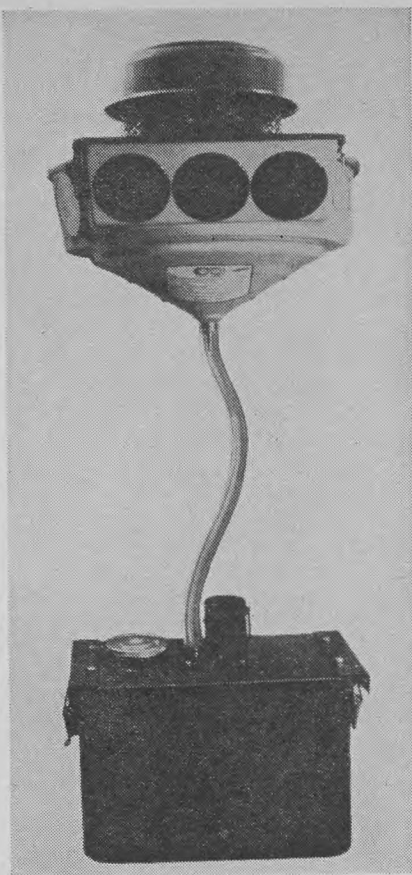


This unit will provide ample fresh water for 40 to 125 head of beef or dairy cattle. It has a self-cleaning flush-out feature. Electric or gas heated models are available. (Ritchie Manufacturing Co.) (473) ✓

## Feeder-Mixer Cart



This trailer-mounted feed-mixer box has a capacity of more than 130 bushels. The two-beater model can unload 60 bushels a minute—enough shelled corn to feed 200 steers. It is small enough to provide economical mechanical feeding for small herds. The bottom beater snaps out to facilitate handling of ear corn and snaps back into place when handling forage or grain. (Calhoun Manufacturing Company) (474) ✓



## Air Conditioner

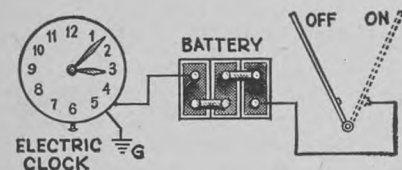
A cab air conditioner provides cool clean air inside the cab of your tractor or combine. With the air washed free of dust and sprays you work in a cool, clean atmosphere at better efficiency. There is also a heating unit which can be attached to maintain comfortable cab temperatures even at 20° below zero. (Gould, Brown and Bickett, Incorporated) (475) ✓

For further information about any item mentioned in "What's New," write to WHAT'S NEW, Country Guide, 1760 Ellice Ave., Winnipeg 21, Man. Please quote the key number that is shown at the end of each item.

# Workshop

## Time Clock

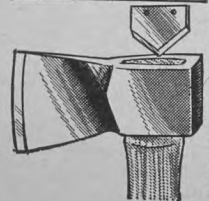
An auto clock can be used to record threshing time by connecting it to the engine ignition. When an



operator starts his day he sets the clock to 12:00. At the end of the day when the ignition is turned off, the number of threshing hours are shown on the clock.—T.K., Man. ✓

## Handy Wedge

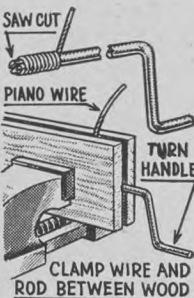
MOWER KNIFE WEDGE FOR LOOSE AXE HANDLE



When changing axe handles or old handles become loose this knife piece serves as a very good wedge to tighten the axe handle. — H.W., Sask. ✓

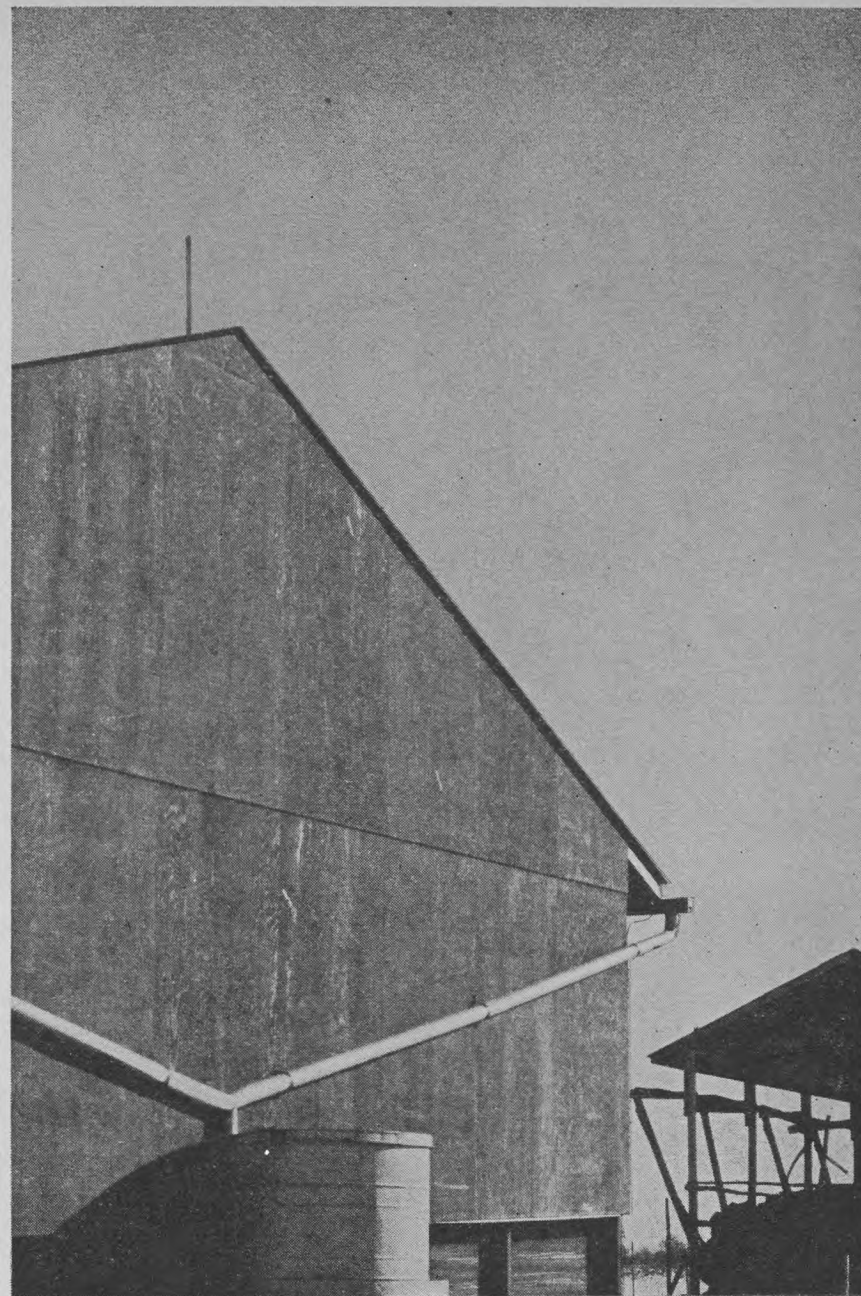
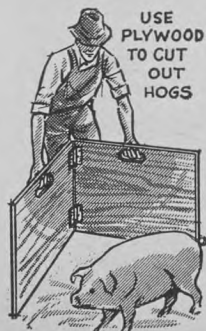
## Homemade Springs

You can wind your own springs quite easily with a length of rod and two pieces of wood. The rod should be the same diameter as the inside diameter of your spring. A little experimenting will show you the right gauge of wire to use for a variety of springs. —W.H.D., Ont. ✓



## Hog Baffle

Here is a simple device for cutting market hogs out of a pen. Take two pieces of ½" plywood, hinge them together and cut out hand-holes as illustrated in sketch. — J.M.E., Alta. ✓



# FARM BUILDINGS STAY RIGID & TRUE WHEN YOU BUILD WITH SELF-BRACING FIR PLYWOOD

Fir plywood makes tight, draught-free farm buildings. Big 4 ft. by 8 ft. sheets are light in weight and easy to handle. In large buildings and small, self-bracing fir and other western softwood plywoods (edge-marked PMBC) provide rigidity and lasting strength. Nails hold well.

Build for less with plywood marked PMBC. Large, uniformly sized panels go up quickly, giving full value coverage with little or no waste. Labour costs are reduced. No special skills or costly tools are needed. Plan and build with fir plywood for lowest overall cost and longer lasting

strength. When you order from your lumber dealer, ask for free plans of pole frame and rigid frame buildings,



or write to 550 Burrard Street, Vancouver 1, B.C.

Fir and other western softwood plywoods are ideal for lining the interiors of farm buildings. Plywood stands up well to hard knocks and is resistant to damage by livestock and poultry. With plywood, condensation is reduced — linings are easy to keep sanitary.

## Waterproof Glue FIR PLYWOOD

Plywood edge-marked PMBC has Waterproof Glue  
Plywood Manufacturers Association of B.C., Vancouver 1, B.C.

F-64-H

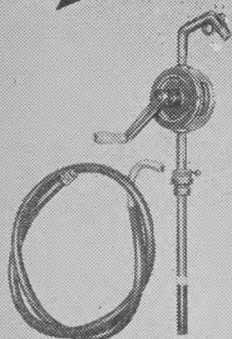
Look for the edge-mark





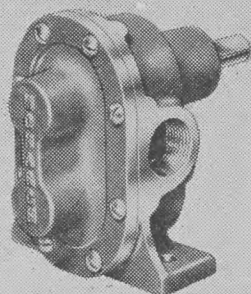
**Monarch**

## FASTEST SELLING QUALITY PUMPS IN CANADA

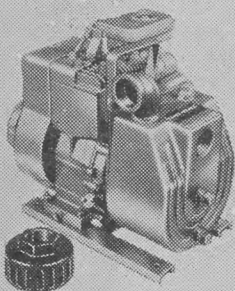


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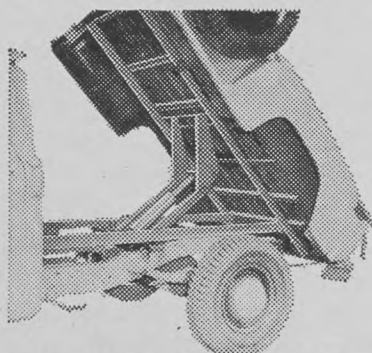
## Truck Hoists by

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## Management

### A New Importance for Credit

RECENT FEDERAL legislation boosted the lending capacity of the Farm Credit Corporation to \$600,000,000. Individual loan ceilings are doubled and will be \$40,000, or \$55,000 in the case of supervised loans. Such figures dramatically illustrate the changing concepts of farm credit.

A generation ago it was largely restricted to a moderate sized farm mortgage and indebtedness was a sinful and secret skeleton in the family cupboard.

In June the Ontario Department of Agriculture organized a dozen credit meetings; at one such meeting in London over 300 farmers turned out to learn more about the potential and the pitfalls of the use of somebody else's money.

"Capital requirements per man in farming," according to Dr. Howard Patterson, ODA economist, "are about the highest of any industry in Canada." Credit — will it be a millstone or a stepping stone? "It will all depend," says Patterson, "on how it is used and the terms and conditions under which it is borrowed."

A team of farm management specialists developed this philosophy for a proper concept of credit.

- Don't borrow too much, too little or repay too quickly.

- Use credit to boost income but restrict its use for unfamiliar enterprises.

- Keep debts in line with net worth and anticipated income. Income will have to cover operating expenses, replacement of depreciated assets, living expenses and debt retirement. "Don't be like the man," advised D. A. MacArthur, "who couldn't repay the 6% mortgage and borrowed at 10% to meet the payments!"

- Shop for the best loan terms and conditions and have adequate documentation to justify a loan.

- Credit increases risks; have adequate property, liability and life insurance.

What will a loan cost? Simple interest rates have become, with certain categories of credit, anything but simple. They are complicated by carrying charges, investigation fees, service charges and costs of appraisal. The following formula is advocated for cutting through the underbrush of confusion:

$$\frac{\text{Total Finance Charges}}{\text{Half original loan}} \times \frac{\text{No. of payments}}{\text{No. of years}} \\ \times \frac{1}{\text{No. of payments} + 1} = \text{actual annual rate of interest}$$

For example a bulk milk tank might be purchased for \$2,000 cash or over a 5-year period with quarterly payments of \$149. Most of the cash price could have been borrowed through one of the chartered banks under the provisions of a Farm Improvement Loan at a cost of 5

per cent. By applying the formula the true cost of the installment plan becomes apparent — 18.7 per cent!

Credit may be conveniently broken down into the three main categories; short term, intermediate and long term. Short term credit would normally be repaid between 1 and 24 months. It is restricted to operating expenses, such as the purchase of steers or fertilizer. Sources of short term credit are: banks, farm suppliers, commercial credit agencies, individuals and credit unions. Short term credit should be reflected in sales of livestock or produce within 6-24 months; it should be a supplement rather than a substitute for the farmer's own capital.

The sources of intermediate loans are similar to those available for short term credit. Intermediate loans are repayable over a 1-10 year period. They are made for the purchase of livestock or machinery or for the erection and equipping of new structures. There is a time lag between actually borrowing money, for say a new farrow-to-finish enterprise, and the time the returns come in. "One of the most serious mistakes," says Bob Bell, "that is made is not in using too much credit, but in trying to repay it too quickly."

Long term credit, repayable over a 5- to 30-year period is largely real estate credit. It includes the purchase of land and buildings and the construction and improvement of buildings. Individual lenders and trust companies figure in long term credit but the impact of government is large and growing. Federal government sources of credit are: the Farm Credit Corporation, the Industrial Development Bank, VLA and the Central Mortgage and Housing Corporation. Ontario farmers have an additional source of long term credit in the Junior Farmer Establishment Loan Corporation.

Credit, in its various forms, has become an integral part of farming; its wise and intelligent use are essential for prosperity and peace of mind. As one farmer put it, "The very first thing to do when contemplating credit is to establish the soundness of a loan to yourself, before setting out to convince the lender."—P.L.







As the cougar's tawny shape oozed along the brow of the cutbank Margaret choked back a cry

## HALFWAY TO THE MOUNTAIN

by D. P. BARNHOUSE

Illustrated by MANLY GELLER

"For Pete's sake, can't anyone hear me?"  
 "This is Warden Nelson's wife," she said. "I'm sorry if I cut you off."  
 "Cut me off, be hanged!" The voice sounded relieved. "We've been trying to get through for an hour. Will you call the town office for me?"  
 "I'll try," she said. "What shall I tell them?"  
 "Tell them the bridge is out at the North Fork. It's still raining like the dickens up here. There's a lot more water coming down your way. Will you ring me back?"  
 "Yes," she said. "Right away."

She rang Jasper repeatedly for several minutes without getting a response other than a lot of

buzzing and crackling. When she tried to get the Icefields back, their line was dead. She felt the first chill ripple of real fear.

Now she knew why she hadn't been able to get Nora. Lines were down somewhere. The Blue Creek station was above and well away from the river. If she hadn't heard what was happening in the flats Nora wouldn't think to come for her. She tried ringing every ranger station up and down the line with no better results. The ugly oak box with its protruding black mouth stared back at her in mute defiance. She was afraid to go outside for fear the Icefields might call back.

She read over the old messages on Stan's call pad . . . check signs of tree blight at 5,000-foot level . . . first aid kits for youth hostel mile 52 . . . cougar and young seen near No. 37 Work Camp . . . fragments of his daily job.

Was he complete and happy over there on the far side of Thunderhead Mountain, in that harsh lonely world above tree line? Did he worry about her? Was the sun shining in his valley or was it raining there too?

Half of her mind was with him. The other half was waiting for the phone to ring or a truck drive into the yard. Some creature down by the river kept up a steady screeching for a few minutes before the sound died away in a series of diminishing whimpers.

It reminded her of the ambulance sirens whining down Bolten Avenue toward Grace Hospital, in that far away urban life she'd traded for this isolated cabin in the middle of nowhere. How often she thought wistfully of Bolten Avenue with its dress shops and movie houses and people hurrying; the frantic four-to-six policeman on the corner and the blind popcorn man who usually parked his wagon behind the newsstand . . .

TOWARD EVENING, THE DAY AFTER Stan left, the rain began again. It maintained its steady sullen downpour through the night and into the next day. It opened up the old roof leak. Margaret placed a pail under it and listened to the steady plink, plunk, with mounting tension. It held the same menace as the mountains crouching outside, their angry peaks blurred by rain.

At 4 o'clock she put on raincoat and rubber boots and went outside to check the river level. She was shocked at how fast it had risen since noon. It was now at the third peg. Stan had warned her that when it reached the fifth, part of the lower road grade would be under water. She'd have to go to Nora's after all, and while it was still daylight.

She rang the Blue Creek station several times but there was no answer. Perhaps Nora had already left to fetch her. She took oats and fresh water to the stable, wishing she had Stan's affinity for horses. She was secretly afraid of Gretel but her foal was a darling. No wonder Stan was so fond of it.

She let him nibble at her fingers for a while before she went back inside. What was she to do with them? Tie them to the back of the truck? Turn them loose? Thank goodness for Nora who always knew what to do in an emergency.

It seemed to her that the drumming on the roof had lessened somewhat, but the leak still dripped away with maddening regularity. She jumped violently as the phone bell jangled . . . two shorts and a long. It wasn't their ring but the thought of hearing a human voice prompted her to lift the receiver.

It was the Icefields calling Jasper. There was no reply from the other end and she was about to hang up to clear the line when an irritated voice shouted faintly.



oftener than she should perhaps. Dreams were all right. You couldn't be expected to control them and she'd been walking down Bolten Avenue in a new pair of high heeled pumps the morning Stan left for the Brazeau.

Segments of her awakenings were always out of context. That morning, for instance (was it only three days ago?) it took a while for the familiar smell of exhaust fumes to give way to the astringent odor of pine.

She kept her eyes closed tight, not wanting to recognize the drumming sound as rain on the cabin roof instead of her new heels on the pavement; not wanting to hear the

whisky jacks or the scrabbling of a weasel under the floor avidly snuffing out the life of some small creature; not wanting the taut string of anxiety in her chest to commence vibrating.

Then Stan's moving about in the kitchen brought her new world back into sharp focus and she didn't much care, lying there still within the reach of sleep, what sort of world it was as long as she wasn't alone in it and Stan was there in the next room ready to stand between her and the unknown.

"Hey," she called. "Why didn't you wake me?" He stuck his head around the door. Bleached as pale

as lichen by the sun, his hair somehow didn't belong to the lean brown face.

"Sorry," he said sheepishly. "I was trying to be quiet."

"You're about as quiet as a pack-rat in a tool shed."

"You looked so peaceful I hated to wake you."

She stretched luxuriously. "I was dreaming of home."

"Which one?" When Stan grinned little draw-strings tugged at the outside corners of his eyes and drew them up into a squint.

"The old one."

"You changed your address some time ago, remember?"

"Sometimes it gives me a start, all the same — waking up in the middle of these mountains." She shivered and burrowed into the bedclothes. He came and sat beside her on the bed and all of a sudden she felt at home again — safe and secure.

"Will the rain ever stop?" she asked drowsily, not really caring as long as he was there within touching distance.

"It's begun to clear in the west."

She reached out and felt the rough fabric of his warden's uniform . . . the bulge of his service revolver. Immediately she tensed—drew back. She recognized his expression of helpless apology tinged with stubbornness that always plunged her spirits to earth.

"You're leaving again."

"The office called George this morning. They want us both up in the Brazeau."

"How long will it be this time?"

"A four-day patrol — five at the most."

"When do you have to go?"

"George is getting the pack horses ready now."

"I might have known it was too good to last, having you around for a whole week."

"George says do you want to stay at Blue Creek until we get back. Nora'd be glad to have you."

"No thanks. That woman is so darned efficient she makes me feel more inadequate than I am."

"Oh I don't know about that. Nora can ride and shoot like Annie Oakley and she's a whiz at tying trout flies but you're more efficiently pretty."

"I'm also a natural born coward."

"With that red hair no one would believe you."

"You should know by now that you can't judge the contents by the color of the label."

"Did I ask for any guarantee?"

Her flippancy melted away suddenly. "Stan, I didn't know it would be like this — that I'd grow to hate mountains — or be jealous of them . . . I don't know which."

He shook her gently. "Did I ever lie to you, Margaret — about my work — or about anything?"

"No," she admitted. "But there are other kinds of work that you *could* do, Stan."

"And other kinds of men to do them. I like what I'm doing. It's the only life I know. I'd be like a caged bear in an office. You know that." She saw his jaw line harden; the gray eyes darken to slate.

"I'm sorry," she said. "I know, we've been all through this before and I promised not to bring it up again."

"It's a good life, Mag, but you've got to give it a chance. You've got to meet it halfway."

SHE DIDN'T SAY ANYTHING for a minute or two, thinking . . . how far is halfway? Six months of the tyranny of rock walls . . . of being alone with strange sounds and unseen things that moved stealthily in darkness? She reached for her dressing gown. He put it over her shoulders and fished her slippers out from under the bed.

"Cheer up, honey. Nothing much can happen in five days."

"Something will turn up that isn't covered by the service manual. It always does . . ."

She drank coffee in the kitchen while he gathered his gear for the long trail ride.

"What horses are you taking?"

"All, except Gretel and her foal. You'll keep an eye on him?"

"I'll bet you'll worry more about that colt than you will about me."

"It should be a draw. That's the first colt I ever raised."

Their laughter got tangled up together. Funny how vague her fears seemed with him here in the warm kitchen; with the fire spitting and the rain falling more gently outside.

"This long rainy spell has made me jittery," she said, half in apology. "Once it's over I'll be perfectly all right."

"Just phone Nora if anything goes wrong. I think the river's reached its peak but watch the markers and

## What Makes a Woman CHOOSE SUCH A LIFE?

You see her walking down the street . . . and you wonder about her.

She isn't fashionably dressed like other women. She wears no lipstick, no makeup, no high heels or nylons. Instead of a "perky" hat her head is covered by a hood and veil. Her dress is a billowing, full-length habit that bears little resemblance to feminine fashions.

And as she passes by, you realize that here is a woman different from others not only in dress . . . but in her entire way of life. Here is one who has deliberately turned her back upon the worldly pleasures which other women seek and enjoy. And perhaps you wonder why a woman should give up all this to become a Catholic nun.

Is it because she is afraid to face the world and its responsibilities? Is it because she lacks talents that other women possess and therefore seeks shelter in the convent? Is she devoid of maternal instinct? Or does she choose the life of a nun because she thinks it is easier and more secure than life in a world of fluctuating economic conditions?

No—a nun who will knock at your door asking for alms for the poor surely is not afraid of the world. A Catholic sister competent to teach in a school . . . and often highly gifted in the arts and languages . . . is surely not lacking in talents. Nor can anyone who has seen a Catholic nun mothering the sick in a hospital believe that she is

lacking in the maternal instinct.

What is it, then, that prompts a woman to turn her back upon the pleasures and luxuries of the world for a life of poverty, chastity and obedience? How is it that hundreds of thousands of women do this . . . many of them coming from well-to-do families which could supply their every need and wish? What is the spark that fires their zeal for God, and for humanity?

The answer is, of course, that the heart of a nun is filled with the desire to serve God. And that desire is the product of her Catholic Faith. If you doubt the compelling power of Catholic belief, remember this fact . . . the Catholic Church is the only institution on earth having large numbers of such consecrated women who devote their lives to the work of Christ in schools, hospitals, orphanages and old peoples' homes, and among the poor and sick in every land.

Perhaps you would not or could not become a nun, or a priest, or a religious of the Catholic Church. Perhaps you would not even want to be a Catholic. But you should inform yourself concerning the teachings and beliefs of the Church which can inspire such magnificent sacrifice and service.

If you would like to know more about the Catholic nuns, write today for free Pamphlet No. CY-25. It will be sent immediately; nobody will call on you.

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"I don't think I'll be going anywhere," Margaret said. It was meant to sound jaunty and reassuring. He needn't know it really meant cowering within these four walls like a mole in its burrow and counting the days and hours and minutes until he came back.

She clung to him suddenly, feeling a constriction in her throat that was a mixture of fear and tenderness. He faced dangers every day that she knew so little about. She had overheard some of the tales that he and George swapped about avalanches and grizzlies and forest fires; tales that curdled her blood.

"Nothing," she said. "I'll miss you, that's all."

In a spirit of resigned martyrdom she surrendered her senses to the sound of rain and the smell of sodden muskeg and pine and the feeling that outside the cabin everything was crowding closer . . . mountain, forest, river and all the creatures that lived in or on them.

She dampened down the stove, put on boots and raincoat. Outside, a chill wind drove down from the glacier, whipping rain needles against her face. The truck crouched malevolently beside the corral fence in a shallow puddle. She had learned the rudiments of its operation because Stan had insisted she do so, but now it snorted and coughed, resisting her frantic efforts to bring it to life. The throaty roar of the motor, when it did catch, came as an immense surprise to her. She put it into gear, gunned the motor, but there was no forward movement. She could feel the wheels digging themselves deeper into the silty clay. She got out to investigate; discovered that one of the back tires was flat . . . She had never changed a tire in her life.

stall bars and ran to meet her. In the diversion created by a bribe of sugar, Margaret managed to get a bridle on Gretel but immediately she lifted the saddle from the peg the mare swung her hindquarters around, pinning her against the stall. She held Margaret squirming and helpless for a minute. Then, with a contemptuous glance over her shoulder, the mare made for the open door.

Margaret stood stock still, shaken by fear and rage. It seemed that a

"I hate you!" she said savagely, addressing the absent Gretel and the whole waterlogged landscape. "You're all against me — you and the hawk that killed my cat and the bears that wrecked the root cellar and the pack rats and the black flies . . ."

"You too!" she thought. "My rival, my worst enemy. Well let me tell you . . . I'm through playing second fiddle to a mountain."

It was only a little after seven but it was already a sodden, metallic sort of twilight. The rain had settled down to a heavy drizzle.

She checked the cabin carefully, as though for the last time. A rifle and flashlight were all she could manage. Her knowledge of guns was as sketchy as her knowledge of horses but just holding it gave her

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a certain sense of security. How long, she wondered, would the daylight last and how long would it take to walk the eight miles to Blue Creek?

THE RISING WATER was driving game up from the flats to higher ground. A porcupine lumbered his way up from a culvert and crossed the road in front of her. She stood without moving until he'd made his deliberate descent into the opposite ditch. She caught fleeting glimpses of deer or elk flashing up the steep bank which rose to the heavily timbered slopes of Thunderhead Mountain.

She kept a sharp lookout for the mare and colt, shivering whenever a strange cry broke the silence. If anything happened to the little thing how could she face Stan?

Where the river looped toward the road it had nibbled away at it and in some places had swallowed it altogether. Here she stuck close to the inside cutbank and where it fell away, followed protruding boulders and scrub willow which she hoped marked the inside shoulder. She waded through several of these flooded spots without incident except for a boot full of icy water and a cramped foot, thankful for the persevering daylight and the higher grade ahead.

The metallic twilight seemed to go on and on, unchanging. That's the way it was in the mountains. Then suddenly, without warning, it would be dark.

She bent down to massage her aching foot and saw in the ditch below her a brown bear with two half grown cubs. The mother peered through near-sighted eyes; swung her head from side to side, casting about for the source of the human smell. Stan had persuaded her that these bears were quite harmless if unmolested, but the knowledge couldn't prevent her flesh from shrinking in terror.

She forced herself to resume her former pace; walk on by, gripping the rifle hard, and after a while she was able to breathe normally again.

The light was beginning to go now. The scarred face of the mountain leered down at her. The white stems of poplar stood close-ranked like rigid, sinister ghosts. Through their gaps the flats were desolate, with half-drowned trees pock-marking the pallid face of the water.

She leaned the rifle against a rock, removed the boot and massaged her knotted tendons. There were secret rustlings all about. The dreaded night sounds were beginning.

THERE WAS A SUDDEN pounding and a shrill whinnying from the deadfall above. Gretel came charging down the cutbank. The colt emerged some distance beyond, slid part way down, hesitated on an outcropping, too tired or too afraid to make the final jump. The mare slid to her knees, scrambled up to begin a frenzied stationary dance.

Margaret wondered at her idiotic behavior until she realized that the dangling reins were caught on something that anchored her to the spot.

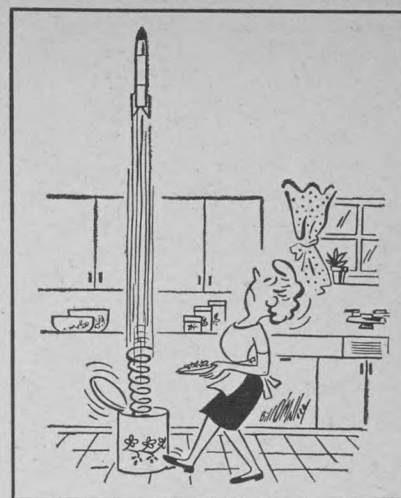
She looked up at the teetering foal and only then did she notice a tawny shape oozing almost imperceptibly, like tidewater, along the brow of the cutbank.

She had never seen a live mountain lion before. As it reached a point directly above the colt, she opened her mouth to cry a warning but choked it back. She felt that so far the cat hadn't seen her. It was too intent on the prey at hand. She glued herself to the boulder and waited for the plucked string of panic to commence vibrating inside her chest. Instead, she found herself steadying the rifle barrel against the rock's edge; lining up the sights as Stan had shown her . . . now the safety catch.

She sensed rather than saw the tensing of the cougar's powerful haunch muscles. The gun's recoil banged her against the rock but she didn't let go, and as the beast leaped outward and came crashing down the incline, she fired again. It thrashed about for a bit and then lay still.

While she was freeing Gretel from a tangle of juniper, the colt made its own way down the bank. She let it nibble at her fingers; felt a strange surge of pride; heard it reflected in her own voice.

"Don't fret, old girl," she told Gretel. "We'll raise him yet."



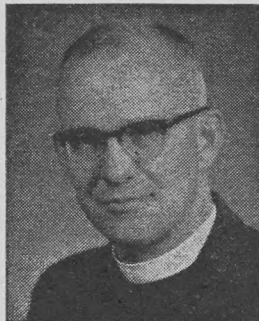
The mare stood quietly by the rock while Margaret mounted. They went on slowly so as not to tire the colt more than was necessary.

The drizzle was now a light mist blotting up the remains of daylight from the valley. Margaret welcomed familiar landmarks like old friends, mildly astonished that she felt no particular dread of the coming darkness. "That's all it is, once you've faced up to it," Stan had said, "just conversation." Well, now she had a story of her own to swap!

The rush of water as she passed the falls took on a quality of music—violent, but in harmony with the night. The moon climbed up its ladder of cloud tatters, dripping silver over the ramparts. Old Thunderhead grinned slyly down at her, holding a scattering of captive stars in his teeth.

## Let's Think It Over

by THE VERY REV. M. L. GOODMAN



### The Fifth Freedom

"If you can talk with crowds and keep your virtue, or walk with kings — nor lose the common touch; If neither foes nor loving friends can hurt you; If all men count with you, but none too much . . ."

There in that last line Kipling has hit upon one of the secrets of freedom. "If all men count with you, but none too much." How many of us are bound by the chains of other people's opinions? How can we be free if we are constantly haunted by the thought of what someone else will say or think? We may commit actual sin, not because we don't know any better, not because we want to, but because we're driven on by the remorseless whip of the demands of others — a whip which we ourselves have placed in their hands.

"Let all men count . . . but none too much." It goes without saying that we must respect other persons. But there's a difference between respect and fear. It's the same difference that lies between freedom and bondage. A man is not free unless he's delivered from persistent anxiety about the attitude of others.

There is an old and wise saying that you can't please everybody, so the best thing you can do is please yourself. Let us substitute one word only. The best thing you can do is please God.

Suggested Scripture: Acts V, verses 17-32.

### The Other Belief

Joe used to turn up at any time of the day or night. When I found him on the doorstep I knew that he wanted to go over to the church to pray and he wanted me to go with him. Joe only came like that when he'd been drunk for about three days. He was in the stage of utter shame and desolation, at the very bottom of the black pit.

By the grace of God I knew that I must never say, "Joe, you're drunk," or indicate in any way that I knew he'd been drinking. You see, at this point, Joe had lost all faith in himself. His great need was to have someone accept him, someone to believe in him. This was what he was asking of me. This is what I tried to give.

That's one thing everybody needs — someone to believe in them. God believes in you and me. He believes in us so completely that He has ventured His whole creation on us.

If He believes in us, we must learn to believe in each other. We must learn to act always with respect and love. When someone says something unkind about another person, even though there's a good chance that it is true, we should say: "I don't want to talk about it. He may have done that, but if he did, it was in one of his bad moments. It's not the real man who did that."

God believes in the *real* man. God recognizes the man who's *going to be*, not the man who now is liable to be miserable and sinful.

Next to our belief in God must come our belief in each other.

Suggested Scripture: St. Matthew VII, verses 1-5. I John IV, verses 7-21.

### My Heart's Desire?

In a recent issue of our church paper two advertisements appeared side by side. One had a picture of a smiling young woman and these words, "It came to me that I should serve."

It went on to say: "Today the Canadian church needs highly-educated, well-qualified, fully-trained women for its mission."

The second advertisement was an invitation to borrow money from one of our banks. It began with this question: "In love with a certain new car?"

There on the same page were represented the two opposite approaches to life—the desire to give and the desire to have.

In our day there are many more appeals to our desire to have than there are to our desire to give. Even more serious, it seems that much more importance is attached to having than to giving and serving. When I first mentioned the idea of going into the ministry, one of my relatives said emphatically: "What do you want to do that for? There's no money in that!" This was advanced as a conclusive argument against my entering the ministry. Does it reflect the thinking of most people today?

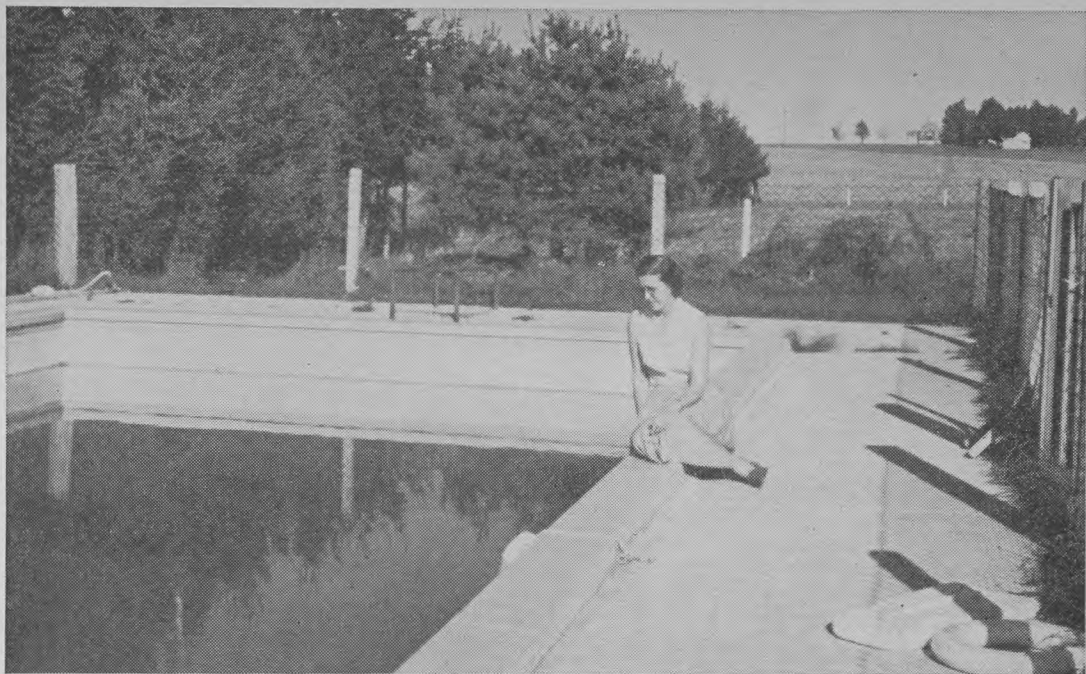
Which attitude are our children learning from us?

Suggested Scripture: I Samuel II, verses 12-17 and chapter III.



# Home and Family

by GWEN LESLIE



Carl plastered the inside pool surface. The walkway to the right of Jean Edwards in the picture above, with the fence, added \$200 to \$1,000 pool cost. Swimmers' changing room is at end of garage [Guide photos]

## Their Picture Window Frames a Pool

"WE CAN'T GET AWAY WEEK ENDS because of the chores," Jean Edwards told me. That's a common complaint among dairy farming families. But Jean and Carl Edwards have made staying at home a pleasure.

A glance through the picture window in their dining room reveals one reason. It's the 40- by 15-foot swimming pool — a pool that they built themselves. Seven and a half feet deep at the diving end, grading back to 3 feet at the shallow end, it represents a \$1,200 investment in summertime pleasure. Jean explained that while the cost of the pool itself was \$1,000 the filter accounted for about half of that amount.

"Having the pool has been especially good for Stan," Mrs. Edwards says of their 13-year-old son. "He didn't care for the water before; we just couldn't get away to the lake where he could get accustomed to it. After we built the pool he learned to swim. Now he loves it."

Both house and pool are built of cement blocks. For the pool, Carl filled the centers with cement; for the house, insulation.

Their house is another reason this family take pleasure in staying home to welcome the friends and family who come to visit. They designed the house to meet their own special needs and they built it themselves other than for the installation of the electric wiring and the plumbing. Its convenience, easy-care features and its design for enjoyable living are the characteristics that Jean Edwards likes best.

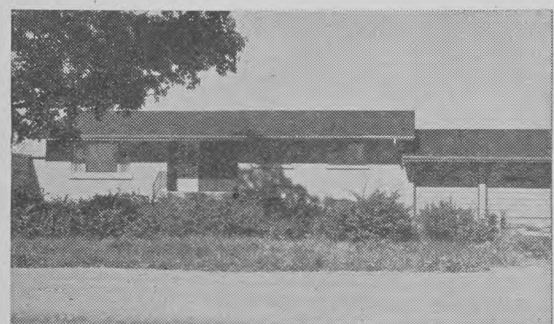
Jean insisted that the living room be a living-in room. She wanted the family to be comfort-

able and enjoy themselves. That's why she decided on a tile floor there just as in the rest of the house.

The inside of the house has a warm, pleasant feeling. The Edwardses used random-grooved mahogany paneling for the entrance, living room and dining room walls and for one wall in the kitchen. They chose pre-finished panel hardboard — two in golden oak, one in walnut — for the bedroom walls. Ceilings are finished with 4- by 4-foot sheets of ceiling tile. Carl and Jean heat their home with electricity. Jean finds it "less dusty than other kinds of fuel."

The Edwardses finished a basement recreation room that runs the full 50-foot length of the house. It's a room that gets plenty of use. The billiard table is there and young people, including the grandchildren who now come to visit, use it for games and hobbies. The room has another use: one end of it adapts to sleeping accommodation when daughters come home to visit.

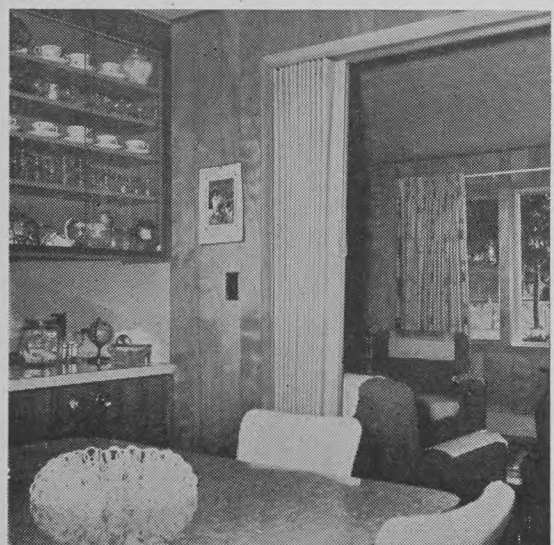
Now this family has no desire to go away for week ends. Instead, they're content to stay home. And why not? After all that's why they provided themselves with their own brand of built-in pleasure.



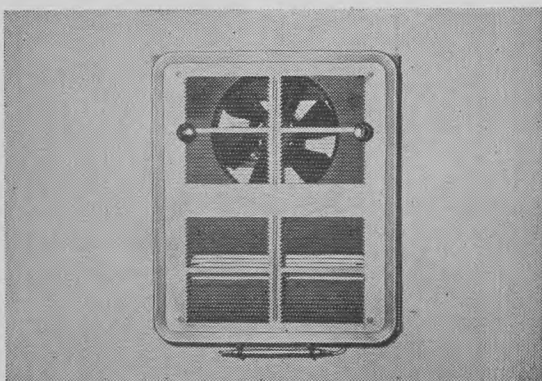
The Edwardses' 3-bedroom bungalow near Curries, Ont., measures 25' by 50' plus the double garage



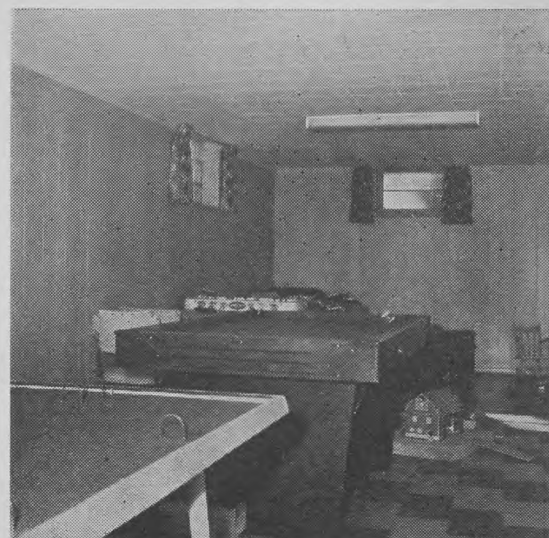
Mrs. Edwards appreciates the convenience of the wall oven, countertop elements and combination refrigerator-freezer in her bright, spacious kitchen



The cupboards above do double duty—they back on the end kitchen unit and divide the two rooms



Electric wall fan heaters keep finished basement area cozy; upstairs, it's baseboard units



Laundry room and Carl's workshop adjoin the 50' recreation room walled with maple panelboard



# Rural Rhymes

## Friend and Foe

Fire is our friend if we are firm  
And guard it as we should,  
Safe in our stoves or on our hearths,  
Not let it roam the wood.

When we grow careless, just one spark  
Can creep away and grow  
Into a monster, talons spread,  
A crafty, red eyed foe!

Let's watch our camp fires, lest we loose  
The fire beast from its cage,  
To leap across the countryside  
In screaming, searing rage.

Our hills and valleys will stay green  
As long as fire can be  
Controlled, so that it leaps in play,  
And purrs contentedly!

—FRANCES GORMAN RISSEN

## Sunset

The day is done, the weary sun  
Sinks slowly to his rest,  
While angel hands, with flaming bands  
Paint out the golden west.

Along the broad horizon  
A burning brand is flung,  
And o'er it deepest purple,  
A cloudy veil is hung.

A faint soft glow has settled low  
Along the eastern sky,  
Reflected from those sunset fires  
So soon to dim and die.

Then as the sun sinks lower  
His glory slowly fades,

The deep hues turn to paler hues,  
And in creep darkening shades.

And God bends low o'er the weary  
world,  
And in the waning light,  
He whispers through the evening  
breeze,  
And kisses her goodnight.

—KEITH ROGERS

## Summer Fallow

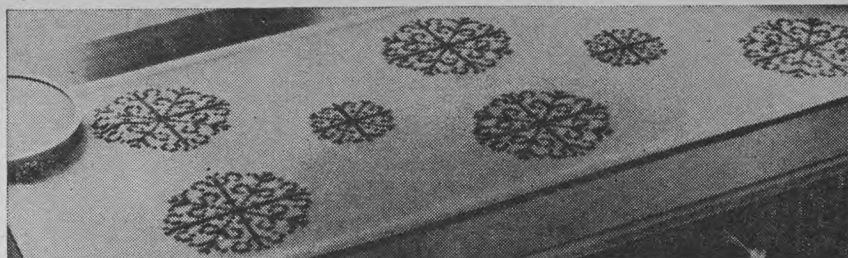
I follow the furrow from dawn to dusk,  
With the gulls wheeling 'round above,  
And my dreamer's heart soars as the  
tractor roars  
On mystic paths that I love.

I race with the gulls as they turn and  
dip  
On their homeward journey bound,  
And I feel again sea mist on my face  
Forgetting the tractor's sound.

Or I stand once more on a forest's floor  
And the pine needles carpet my feet,  
The mountains rise high to the velvety  
sky  
Where the clouds and the peaks often  
meet.

To lands far away I let my soul stray  
On adventure and beauty it is sped,  
I travel my way through the long  
summer days  
And my trail is the furrow ahead.

—W. R. McNEIL

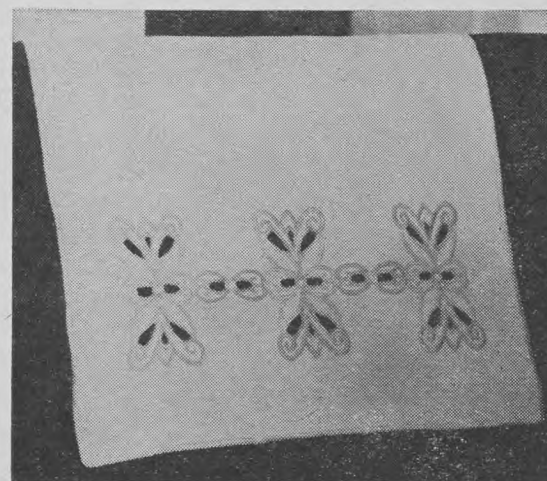
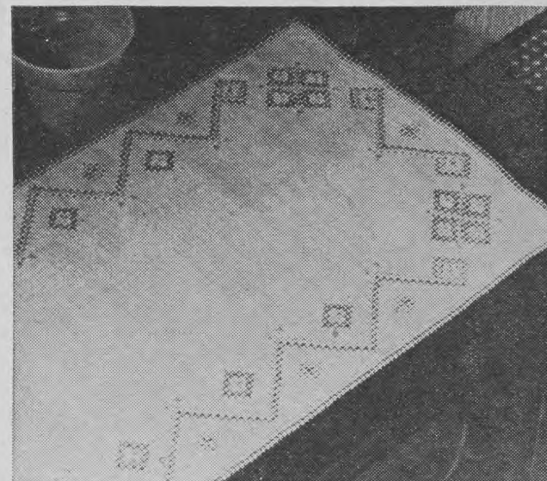


Diagramed embroidery instructions for the Cross Stitch motif which trims this attractive runner are contained in Leaflet No. E-7494; leaflet price 10¢.

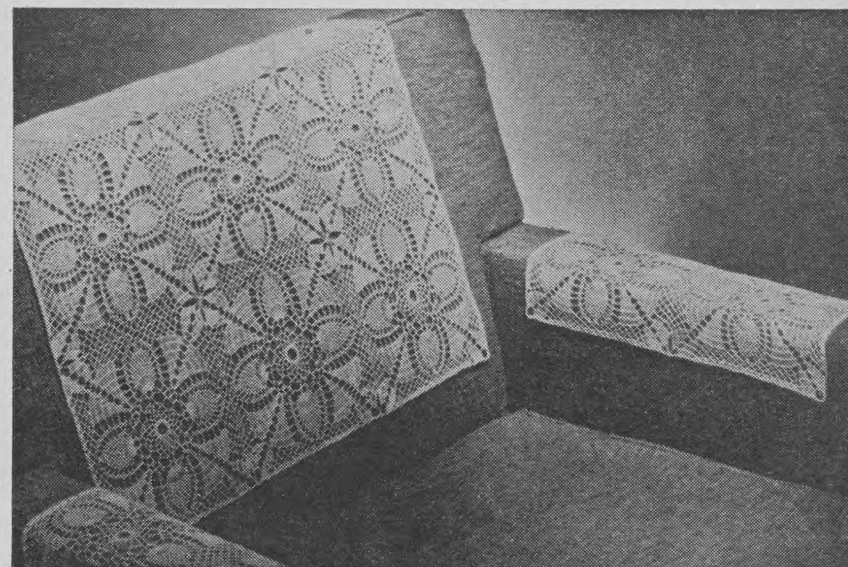
## HANDICRAFTS

### Decorative Cover-ups

Leaflet No. E-7221, 10¢, offers diagramed directions for the Diagonal Raised Band, Single Faggot Stitch, Four-sided Stitch, Straight Stitch, Upright Cross Stitch, Satin Stitch and Hemstitch embroidery for this linen runner.



Order Leaflet No. E-7862, 10¢, for full-size tracing diagram for cutting and embroidering the motif for this decorative cut-work chairback cover of embroidery linen.



The 7" square pineapple motif shown in this crocheted chair set can also be used for pillow and placemats. Order instruction Leaflet No. S-739, 10¢.



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Jean Flett bakes plenty of buns and bread for the impromptu mass feeding projects that are normal for the Flett household on week ends. Upper right: Dale Flett, his outriders (Jean makes their colorful shirts) shown with sponsor Peter Bawden. Lower right: Chuckwagon at home with typical Sunday crowd including Jean's father, Jay Clark, at far left



## Chuckwagon Champions at Home

IT IS FABLED THAT a great woman stands behind every great man. But it is a fact that a remarkable woman stands behind Dale Flett, one of the greatest chuckwagon drivers in the history of the West. With her husband away winning trophies — and purses — at anywhere from 15 to 25 rodeos each summer, what part does she play in this thrilling but dangerous sport?

Recently I spent the day with Jean Flett, Dale and their children—Kerry 10, Gail 8, and Joy 5—on their farm near Drumheller, Alta. With the Cowboy Protective Association race circuit swinging into action and the Calgary Stampede and its chuckwagon purse of \$28,000 awaiting the eager drivers, racing fever at the farm ran high.

The training tracks in the field behind the house were well worn. (Dale starts training at Easter for the summer racing circuit.) The famous "Peter Bawden" chuckwagon stood "at home" in the yard, and the pampered racers, gentle, shining and well-fed, shuffled feed in their mangers in the big, red barn.

When we arrived, Jean was busy making fresh buns for lunch. Friends, relatives and neighbors were already converging on the sunny kitchen. By lunch time 20 of us sat down at the huge dining-room table to relish a roast beef dinner—with ice cream and strawberries for dessert, and, of course, as many crisp, fresh buns as we could eat.

"Such a crowd!" I exclaimed, amazed at Jean's efficiency in the face of this impromptu mass-feeding project. "Just a normal Sunday!" she laughed. "It's always like this around here."

Inevitably Jean is surrounded by crowds of friends and relatives. Her husband is famous throughout the West and is a brother-in-law of Dick Cosgrave, 10 times world champion chuckwagon driver and for years marshal of the Calgary Stampede.

Jean herself, eldest daughter of H. J. Clark, is one of the Clark family which, for three genera-

tions, has been among the most progressive farmers in the Drumheller area.

Jean has four sisters, five brothers and many nieces, nephews, cousins and in-laws, all living within driving distance. What better to do on Sunday than visit Auntie Jean with her warm welcome, her lovely, quick smile — to say nothing of that delicious bread, thick farm cream and exciting "wagoning" to watch, as the famous Peter Bawden "outfit" hurtles around the stubble field in breath-taking practice races? What better to do than help Uncle Dale walk the horses cool for the required half hour on their return, puffing and proud from the gallop around the barrels?

WHEN JEAN AND DALE were married in 1951, Dale was already a well-known chuckwagon driver and Jean had just graduated from Calgary General Hospital. Her training has come in handy in the intervening years — to nurse her rodeo-scarred husband back to health. Dale has "piled up" on several occasions and suffered concussions, broken shoulder, hip and ribs. With typical modesty Jean says, "I've been able to look after him at home better than if I hadn't had the training."

"She looks after the horses too," adds Dale. "Jean dresses their cuts and bruises when they get scratched up."

Theirs is a typical Alberta farm with a large, 2-storey house, long windbreaks of trees, large barn and outbuildings overlooking the vast, level stretches of the Big Country.

In addition to the farm they run about 50 head of cattle on leased land farther east. They keep 5 or 6 milk cows at home. Jean helps with the chores, particularly during the summer when Dale is away a lot of the time and there's too much work for the hired man. She ships cream regularly and makes all her own butter and bread.

BUT JEAN STILL has time for a hobby. As well as caring for her home and family, entertaining large crowds all summer long, nursing a husband and the race horses when they get hurt, walking

by RACHEL BIGGS

the horses cool during heavy training sessions, taking charge of the farm and racing accounting, she sews — in her "spare time."

"I enjoy sewing as much as anything," she says. "I make blouses and dresses for the girls, Kerry's shirts and Dale's stampede shirts and shirts for the outriders."

Because of the heavy responsibilities on the farm and the children's schooling, Jean doesn't go with Dale to all the small rodeos.

"It's nerve-racking at times," she says. "If I'm near him at the time it's all right. But when I have to wait for news (Please turn to page 42)



Jean in the trophy room with the three younger Fletts. L. to r. Kerry 10, Joy 5, 8-year-old Gail



# Salads to Suit

THERE'S A SALAD to suit every taste, and we count the robust main course salads among the tastiest! Garden-fresh greens, crisp vegetable bits, and a generous portion of meat, fish, poultry or cheese tempt heat-wilted appetites and satisfy the ones nothing can wilt.

A hearty chicken salad makes a hit at family picnics and larger community gatherings. The recipe below lists ingredients for 12 servings and for 50. If there is institutional equipment available, with enough refrigerator space to be sure that no foods are held at room temperature any longer than necessary, the large recipe may be more efficient. But if not, several separate batches of the smaller recipe may be more easily handled.

Home economists of the Consumer Section, Canada Dept. of Agriculture, announce the publication of a new salad recipe booklet. As well as recipes, the booklet offers information on the buying, preparing and storing of salad fruits and vegetables. Write now for your copy of "Salads," Publication No. 1050, available free from Information Division, Canada Dept. of Agriculture, Ottawa, Ont.

## Chicken Salad Orleans

- |                             |                               |
|-----------------------------|-------------------------------|
| 2 T. lemon juice            | 1/2 c. halved white grapes    |
| 1/2 tsp. salt               |                               |
| 1/8 tsp. pepper             | 1/2 c. halved red grapes      |
| 1/2 c. mayonnaise           |                               |
| 2 c. diced cooked chicken   | 2 T. toasted slivered almonds |
| 1/2 c. thinly sliced celery |                               |

Stir lemon juice, salt and pepper into mayonnaise; mix well. Combine chicken, celery and grapes. Add mayonnaise mixture and toss lightly. Chill

by GWEN LESLIE  
Food Editor

until ready to serve, then arrange on water cress or other greens on serving plate or individual plates or bowls. Sprinkle with almonds. Yields 4 servings.

## Chilled Tuna Salad

- |                            |                                    |
|----------------------------|------------------------------------|
| 2 c. chopped fresh spinach | 7-oz. can tuna, drained and flaked |
| 2 large tomatoes, sliced   | 3 hard-cooked eggs, sliced         |
| 1 pt. cottage cheese       | 1 c. commercial sour cream         |
| 1/4 c. chopped celery      | 1/3 c. catsup                      |

Layer the spinach, sliced tomatoes, cottage cheese, mixed tuna and celery, and hard-cooked egg slices in a glass salad bowl or 6-cup casserole. Chill. Mix catsup with sour cream and serve as dressing for salad. Yields 6 or 8 servings.

## Swiss Cheese Salad

- |   |   |
|---|---|
| 2 qt. washed, dried and crisped mixed salad greens (lettuce, endive, spinach, etc.) | 2 T. chopped green onions                     |
| 4 medium tomatoes, cut in 6 wedges each   | 2/3-1 c. diced, cooked tongue or smoked ham   |
| 1/4-1/2 c. unpeeled cucumber slices   | 1 c. Swiss cheese, cut in long, narrow strips |
|   | Salt and pepper                               |
|   | French dressing                               |

Place greens, tomato wedges, cucumber, chopped onions, tongue or ham, Swiss cheese (or processed cheese) strips in a large salad bowl and add salt and pepper to taste. Toss lightly with enough French dressing to coat ingredients. Garnish with radish roses and serve with onion rolls or buttered rye bread.



[Martha Logan photo]

## Chicken Salad for Groups

Ingredients	12 servings	50 servings
Stewing chicken	4 lb. uncooked chicken (4 c. cooked, cubed meat)	16 lb. uncooked chicken (4 qt. cooked, cubed meat)
Chopped celery	2 c.	2 qt.
Garlic clove, finely chopped	1	2
Chopped hard cooked egg	1 1/2 c.	6 c.
Finely chopped onion	4 tsp.	5 T.
Pickle relish	1/4 c.	1 c.
Prepared mustard	1 T.	1/4 c.
Lemon juice	2 T.	1/2 c.
Mayonnaise	1/3 c.	1 1/3 c.

Rinse and cut chicken into serving pieces; place in a large kettle. Cover with water. Simmer until meat is fork tender, about 1 1/2 to 2 hours. Cool chicken and broth separately. Remove

chicken meat from bones and cut into cubes. Combine chicken with other ingredients in a large bowl. Blend, cover and chill several hours. Serve cold on crisp lettuce. V

ing recipes were contributed by Mrs. Ed Connery, Mrs. Anton Chorney (C.N.E. potato queen), Mrs. James Connery, and Mrs. Dick Mulder.

## Pickled Beets

- |                      |                                |
|----------------------|--------------------------------|
| 2 c. vinegar         | 1 tsp. whole cloves            |
| 2 c. sugar           |                                |
| 2 c. water           | 1 tsp. allspice                |
| 1 lemon, sliced thin | 9 pt. beets, cooked and peeled |
| 1 stick cinnamon     |                                |

Boil syrup 5 minutes. Add beets and simmer 15 minutes. Pack immediately in sterilized jars and seal.

## Celery Relish

- |                                |                     |
|--------------------------------|---------------------|
| 4 c. skinned ripe tomatoes     | 4 c. cut celery     |
| 4 c. chopped onions            | 2 c. sugar          |
| 2 1/2 c. (scant) white vinegar | 2 T. salt           |
|                                | 2 large red peppers |

Combine in a large pickling pot, simmer 1 hour, then pour into sterilized jars and seal.

## Dill Pickles

- |              |            |
|--------------|------------|
| 21 c. water  | 1 c. salt  |
| 3 c. vinegar | 2 c. sugar |

Sterilize jars, tops and rubber rings. Wash cucumbers well in cold water. In each 2-quart jar, place 2 sprays of dill and 2 or 3 cloves of garlic. Pack cucumbers and place 1 spray of dill on top. Boil water, vinegar, salt and sugar together and pour boiling brine over cucumbers. Seal. Place jars in canner and bring almost to the boiling point. Turn down and let remain there for about 30 to 35 minutes or until cucumbers turn yellow.

## Uncooked Chow-Chow

- |                        |                     |
|------------------------|---------------------|
| 2 medium cabbage heads | 3 red sweet peppers |
| 9 sweet green peppers  | 8 medium onions     |
| 8 medium carrots       | 1/2 c. salt         |

Grind vegetables in food chopper, combine and add salt. Tie in a cloth bag and let drain 3 hours.

Meanwhile, make the following brine:

- |                         |                  |
|-------------------------|------------------|
| 5 c. sugar              | 3 pt. vinegar    |
| 3 T. white mustard seed | 3 T. celery seed |

Bring sugar, vinegar, mustard and celery seed to a boil, then let cool. Pour over vegetables. Add green food coloring if desired. Store in refrigerator in open jar.

## Table Cucumbers

- |                          |              |
|--------------------------|--------------|
| 2 medium cucumbers       | 2 T. sugar   |
| Salt and pepper to taste | 2 T. vinegar |
|                          | 1 T. water   |

Peel and slice cucumbers into bowl. Add salt and pepper to suit family taste. Add sugar, vinegar and water and toss lightly.

Hint: When peeling cucumbers, cut off stem end and rub cut surfaces together to draw out better flavor before discarding stem end.—G.L. V

★ ★ ★

## Key to Abbreviations

- |               |           |
|---------------|-----------|
| tsp.—teaspoon | oz.—ounce |
| T.—tablespoon | lb.—pound |
| c.—cup        | pt.—pint  |
| pkg.—package  | qt.—quart |



[Canadian Spice Association photo]

# Pickle Recipes

Pickle file favorites from growers' wives

WHO COULD KNOW better ways with vegetables than a vegetable grower's wife? Especially when these wives demonstrate their favorite pickle, relish and vegetable

recipes to promote their husbands' produce, as did the ladies of the Manitoba Vegetable Growers' Association during the August peak of the season last summer. The follow-





BLOUSES AT LEFT

No. 9848. This blouse wardrobe pattern for girls presents four quite different blouse stylings. Three tuck in; the overblouse features a side-slashed hem, set-in roll-up sleeves, and top-stitch trimming on the button-down collar and tab neckline. Tuck-in blouses offer a choice of roll-up or long hand-cuffed sleeves, full front-button opening or tab neckline. Girls' 7, 8, 10, 12, 14. Price of pattern is 50c.

SKIRTS AT LEFT

No. 9849. The skirt wardrobe at left offers four stylings popular with the school-bound crowd. All four have center back zipper closings topped with three hooks and eyes. One skirt features slim straight styling with back kick pleat. Others offer fullness achieved through use of gathers, pressed box pleats, or softer unpressed box pleats. Girls' 7, 8, 10, 12 and 14. The pattern price is 50c.

School Girl Specials



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Pattern No. \_\_\_\_\_ Size \_\_\_\_\_ Price \_\_\_\_\_

To \_\_\_\_\_

No. 2843. A 1-pattern wardrobe offers a choice of three jumper necklines, two waist-line treatments and pleated or slim skirt. A back-buttoned, Johnny-collared blouse with  $\frac{3}{4}$  sleeves is included. Young Junior sizes 9, 11, 13; Teen 10, 12, 14, 16. 60c.





JOHNNY  
and

JENNY



(The last of two stories)

## The Rain Barrel

Story and drawings by  
JANET D. SCHINTZ

down the pipe near the nest with a hiss and a gurgle and splash as it fell into the barrel. "Oh well, I'm as snug as can be here," she said as she settled down over her eggs.

Soon six wide-open beaks were squawking for food. Jenny made many trips each day to gather food to keep them full and happy.

Johnny did help but he left most of the work to the little mother.

About 2 weeks later the bird babies were ready to leave the nest.

"Oh dear," chirped Jenny, as she looked with worried eyes on the water. She watched the little ones anxiously as they ventured out, first on one log, then a little lower—and lower—until with a wobbly flop and flutter five of them had safely landed on the grass below.

"Just one more to go!" she thought thankfully as she turned around. Then the calamity happened.

The last fluffy chick fell into the water in the rain barrel.

"Come out, come out," she urged, "you'll get all wet." But he didn't

know how to get out. He didn't know what to do.

Just then two boys came out of the log house. "Look at the little bird bobbing about in the water barrel," said the older one. "It's a baby wren."

Jenny was in a state. She flapped and fluttered and scolded. "Don't just stand there! Do something," she seemed to say. The boy stretched out a grubby but gentle hand and scooped up the little one. He could feel the tiny heart thumping through the soggy feathers. Carefully he set the small wren in the grass near the rest of the family. "Lucky I came along," he remarked to Jenny. "That wasn't a good place for a nest. I

thought you were living in the popular tree!"

Next day the wren family moved away. The nest under the eaves remained empty until a mischievous wind came swooping by. He blew into every nook and cranny. Just then, as he was leaving, he saw the empty nest. "Oho," he shouted, "nobody needs that any more," and, with a big huff and puff, he pushed it and sent it sailing down to the grass below. V

### My Friend Ocean

*I like to play upon the beach  
Just out of my friend Ocean's reach.*

*He roars with laughter when I come,  
And right away things start to hum.*

*With foamy fingers he will try  
To tag me as I scamper by,  
But just before he touches me,*

*I dash across the sand, you see,  
And wait until he leaves the shore  
Before I venture out once more.*

*He digs down in his pockets deep  
And brings out shells for me to keep;*

*I build sand castles, and each night  
He takes them home, with great delight.*

*Oh, it's such fun, each sunny day,  
When my friend Ocean joins my play!*

—FRANCES GORMAN RISSE

### CHUCKWAGON CHAMPIONS (Continued from page 39)

of the race or of accidents, I'm a nervous wreck."

She usually goes with Dale to the Calgary Stampede. When the chuckwagon races are on at the Exhibition Grounds and thousands of spectators are leaning forward, thrilling to the skill and speed of the flying wagons, Jean says she sees only Dale's figure in the wagon. "My eyes are on that wagon all the time. I couldn't tell you what has happened to the others — or to the outriders — until the race is over. But then, if they are not there, I get worried about them too.

"If a man wants to drive wagon he will," Jean explains philosophically. "You learn to live with it. When the others are racing and he isn't, Dale is like a wound-up watch-spring ready to snap."

Jean confesses she would miss all the glory and excitement if Dale should ever give up chuckwagon racing. But sometimes the price seems high — in spite of a trophy room collection that includes some of the most coveted awards in the West (including six \$300 hand-tooled saddles).

Let's hope, with Jean, for "safe landings" for chuckwagon contestants throughout the summer racing circuit, and for a "lucky seventh" saddle for Dale Flett's collection of racing honors. V

### A Picture to Color



Here's a picture for you to color. Whenever you come to a word spelled in CAPITAL letters, use that color.

Have you ever been to a quiet lake  
Where the sand feels warm on your feet  
When the sky is as BLUE as blue can be  
And the sun warms your skin with its heat?

Then if you have a pail and shovel  
You can build a castle or two.  
And if you're especially careful  
There's no end to the things you can do.

The BROWN-haired boy in the picture  
Shows he knows just what to do.  
He's wearing a jersey of RED and WHITE stripes  
With trousers of NAVY BLUE. V





## Water Ski Skills

"ANYONE CAN WATER SKI," says Raymond Schuessler and, in last month's issue of Country Guide, he explained how it was done. Once you have mastered the basic technique you can advance, he points out, to more difficult feats. There are a number of these. Skiing on one ski, is one example.

To ski on one ski, shift all your weight to the left ski. Keep your left leg straight, the body leaning back slightly. Start to lift the right ski out of the water. Make sure you keep the tip well up in the air; if the tip catches in the water, you're in for a somersault.

When you have mastered this, bend your right knee up past, and outside your right arm, and hold the ski level to the water: this is the "Skier's Salute."

Now you are ready to drop the right ski entirely and continue on with only the left one. While riding on two skis, slip the heel binding off the right heel and let the ski slide off your foot in back of you. Immediately stick your foot in the water, toe pointed in back and to the right.

This dragging foot will serve as balance until you get accustomed to the feel of one ski. When you are in complete control, slowly bring your right foot out of the water and place it on the left ski, directly behind the left heel.

Turning and crossing the wake on one ski is done by leaning into the turns. Experiment with faster turns by pushing the heel of the ski around with your back foot and leaning more into the turns.

Here are some other tricks of the trade:

**Jumping the wake.** This involves crossing the wake, making a fast turn back into it. Then, as you hit the wake, you jump up. If you time them properly, you can make jumps that are 3 to 4 feet in the air and 5 to 10 feet long.

**Rope between the knees.** Pull up on the tow rope until the tow bar is slack. Place tow bar between your knees, lean slightly forward and release your hands when you feel balanced.

**Backwards skiing.** Reverse the bindings on your skis. In other words, get into your skis so that you face the rear of the skis. In about 4 to 5 feet of water, crouch in the water with your ski tips on top of the water. When you are ready to go, stick your head down near your shins and your arms below your hips. As you feel the boat start to pull, remember that everything you learned about skiing forward is now completely reversed. Your weight is on your toes, and you are leaning forward, away from the boat. It will probably take quite a few tries before you are successful because this odd position tends to make the boat pull you over backwards.

When you have mastered these tricks you are well on your way to becoming an expert skier, says Mr. Schuessler. Perhaps you might even like to challenge these records: a speed record (which might have been broken by now) of 51 miles per hour; a non-stop ride of 245 miles; a distance record down the

length of the Mississippi River of 1,800 miles!

He also offers words of caution: safe water ski practice requires two in the boat at all times, one to watch the motor and the skier, another to keep his eyes front for other boats and obstructions.

No one should water ski over shallows less than 5 feet deep.

The driver of the boat should avoid making sharp turns since the backward pull of the skier will tend to slow the boat, sink the skier and put an undue strain on both rope and boat.

To recover a fallen skier, the driver should come up at idling speed and make a half circle around the skier, so that he drags the line into the skier's hands without bringing the boat on top of him. Remember, good skiing is safe skiing. V

## Homemakers' Hints

Slice bananas evenly and quickly by using a pastry blender.—Mrs. F. Von Kuster, Turtleford, Sask.

Rubber bands wrapped around the ends of unpadded hangers will prevent clothes from slipping.—Mrs. H. S. Walker, Rockwood, Ont.

Small plastic bags turned inside out and washed after the contents have been used are handy for mailing letters in rural mailbox. The letters are not dampened with rain or snow.—Mrs. Cecil C. Newcomb, Pembroke, N.S.

Don't throw away that leaky hot water bottle! Stuff it with torn nylons and use it as a kneeling pad while scrubbing floors.—Mrs. August Sieben, Major, Sask. V

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Water skiing has become one of today's most popular sports and each year it draws many more recruits. An easy sport to learn, it's exhilarating as well. Once you have mastered basic water ski skills, you can advance to more complicated forms such as crossing the wake on one ski, even skiing backward



## WE NEED NEW GRADING STANDARDS

(Continued from page 9)

was 97 cents per cwt. for the lean cuts, such as ham, loin, picnic and butt. When value was based on the whole carcass (including feet, etc.) the A-B value difference was reduced to 66 cents. In all cases, the grade price differential was slightly less than the average price difference between sexes. Commercial lean cut value, expressed as value per cwt. of their untrimmed weight, had a range of \$6.60 (from \$29.00 to \$35.60).

"Because we were looking for measurements that would do a better job in predicting commercial value, we made a detailed study of the relationships between a number of carcass measurements and per cent yield of the trimmed carcass," Dr. Fredeen continued. "Although no single measurement or combination of measurements was found that would give a completely accurate estimate of commercial value, certain ones proved to be a lot more promising than others.

"For instance, the best single index of value was per cent yield of trimmed loin."

Of equal usefulness was an index combining four measurements: (1) Average back fat thickness; (2) proportion of lean in a loin cross-section; (3) proportion of lean in a ham cross-section, and (4) weight of the ham as a percentage of the carcass. Carcass weight and length were found to have little or no value as indicators. As an index of true carcass value, a single shoulder fat measurement was superior to either our present commercial grading procedure or grading by sex, and average back fat thickness was equal to total ROP score.

"The fact that we can rate a living pig more accurately with a back fat probe, rate of gain and weight measurements clearly shows that we need to revise our ROP carcass appraisal figures," Fredeen pointed out. "In commercial grading, speed is the essential thing. This is the age of mechanical computers. Why not have a computer tied in with the scales that the animals have to pass over? Weight and back fat probe figures could be taken by the operator and fed into the machine. This would be faster and better than our present methods.

"One alternative to the present commercial grading procedure would be to use average back fat alone. This is a relatively simple measurement that can be readily made on the split carcass. It would greatly improve the accuracy of commercial value estimates. However, such a change of grade standards wouldn't solve the problem of overlapping among grades. Unless we can solve this problem, our chances of increasing the price differential between grades is limited. One answer would be to pay for each pig on its estimated yield of lean meat. Alternatively, the number of grades might be increased so as to permit a wider spread in commercial value between top quality pigs and average quality pigs.

"These things all present possibilities. Why not revise our grading procedures with the tools now at hand? If we wait for a perfect system to

be discovered we'll never change. We have to move quickly to meet competition — especially from poultry products — or the pig industry will lose the race. To help the industry meet this challenge, quality goals established by ROP policy must be in line with current consumer demand. Of even greater importance is the fact that we must have a real price incentive for quality production," Fredeen concluded.—C.V.F. V

## A BUILDING FOR BREEDERS

(Continued from page 11)

new building, while for current demands shipments go to Ontario, New Brunswick and Nova Scotia.

Such is the efficiency of the frozen semen system that shipments are made as far afield as Cuba, Mexico, Italy and Japan.

One of the most significant changes in artificial breeding in recent years has been the co-operation between the East and the West. Service fees in the East would have



LODA photo  
Prototype in a new era in animal reproduction; "Frosty," born July '53, was Canada's first frozen semen calf

risen but for this co-operation. The West has benefited by not having to duplicate the tremendous investment in A.I. in Ontario.

Deliveries of frozen semen are being made to A.I. centers, ranches and community pastures in the West by truck. Driver Campbell Hughes will cover 5,500 miles every 4 weeks. Semen and supplies of liquid nitrogen will be carried for over 100 distributors in Alberta, Manitoba and Saskatchewan. The temperature of liquid nitrogen is  $-320.4^{\circ}\text{F}$ ; it is used as a refrigerant.

In addition to the work in processing, storing and distribution, the new facilities will be used for teaching and research.—P.L. V



## Editor Wins Award

Country Guide Field Editor, Cliff Faulknor, has reason to smile in this picture. Cliff, who is best known to our readers for his farm reports and stories of Western Canada, is a man of many talents.

He is an accomplished writer of fiction and of young people's stories. Reason for his smile is that he has been recently named winner of the Little, Brown & Co. Juvenile Book Award for his novel, *White Calf*. In the picture he is being presented with the publisher's cheque for \$1,000 by Mrs. Audrey Peach of Edmonton, representing that publishing firm. The award was won in international competition and the book has been approved and accepted by the American Children's Library Association.

Cliff informs us that an international aspect of the prize will be the book's publication and distribution in the United States. As any writer knows, this could be the biggest prize of all because of the size of the U.S. market. The book will be released for sale during Na-



tional Book Week next year, in the U.S. and Canada.

*White Calf* is an adventure story set on the Alberta-Montana border in the 1850's, a country through which Faulknor has frequently traveled, and which he knows extremely well. It is the first of a series of three books which he plans to complete and whose purpose is to show the Piegan Indians at that time as a proud people, operating with primitive tools in a harsh environment. He shows how the coming of the white man disrupted things for them. Faulknor reports that as he studied the events that took place as the white man moved into the Piegan country, he developed a tremendous respect for these Indians. In his book, he produces an authentic and fascinating story of their lives. V

## Fringe Benefits from 2,4-D!

WHEN YOU SPRAY your land to kill weeds, you may unknowingly be checking some crop diseases too.

That's what Dr. W. P. Skoropad at the University of Alberta in Edmonton says.

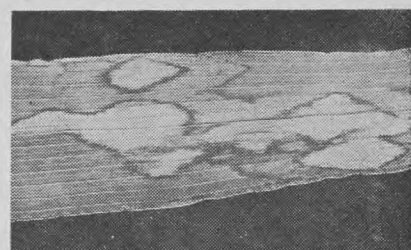
He reasoned like this: Herbicides kill plants, fungi are plants—perhaps herbicides will kill fungi too. Fungi cause many cereal diseases.

He chose to work with the fungus that causes scald in barley. This disease shows itself as small water-soaked spots on the leaves. The fungus spreads from plant to plant by producing spores that are blown around by wind or splashed by water. In the laboratory, Dr. Skoropad treated the fungus with five widely used weed killers—the esters and amines of 2,4-D and MCPA, and Carbyne.

Most effective were Carbyne and the esters of 2,4-D and MCPA. They stopped spore formation completely, even at very low concentrations.

What this means will be seen when we recall how barley scald spreads in the field. The diseased leaves fall to the ground and the fungus overwinters. In spring the emerging seedlings brush against the diseased leaves, picking up spores to start a new infection.

That's why the plant disease men say don't plant barley more than twice in succession on the same



Leaf blotches caused by barley scald

land. Yield reduction of 10 to 14 per cent is what Dr. Skoropad estimates from barley scald; and quality is affected too.

But about the chemicals. Not satisfied with results from direct contact of the fungus with the weed killers, he wondered about the effect of the fumes—the vapor from 2,4-D drift. He exposed plants to the fumes and found that it worked there too. No spores were formed.

Laboratory tests give an indication, but it's the field tests that count, says Dr. Skoropad, and this summer field tests are being carried out. Tests are also under way with other barley leaf diseases.

"We can't say that we'll get rid of all barley leaf diseases in the field," Dr. Skoropad says. "We can't hit every diseased leaf spot by spraying. But we've shown in the laboratory that with 2,4-D and MCPA we can stop spore formation and reduce the extent of new infestations."—Ed Swindlehurst. V



# Health Programs for Poultry

ALTHOUGH MANY practising veterinarians have neglected to participate in the poultry business, an exception is Dr. Duncan Smith. He is a poultry specialist in a partnership with other veterinarians at Kentville, N.S.

Speaking at the Poultry Industry Conference at London, Ont., Dr. Smith gave his own practical ideas for poultry health. Poultry diseases, he said, frequently make the difference between profit and loss. To be successful, disease control has to begin with the breeder flock and be sustained through every phase until the bird is slaughtered.

Smith emphasized the importance of sanitation, and of a frequent clean-up of buildings and equipment. Sweeping, scraping, steaming or washing, he said, must include even the removal of dust. Disinfection may require the use of several materials, if all sources of potential trouble are to be eliminated. Hazards to health include bacteria, viruses, protozoa such as coccidia, and internal and external parasites. Fumi-

gation and a dormant period may be necessary to eliminate leucosis.

Dr. Smith listed the following factors for a successful health program:

- Don't have buildings close together so that disease can be transmitted physically or through air currents.
- Keep traffic and visitors to the minimum.
- Bury or burn dead birds.
- Avoid more than one age group.
- Depopulate; a break of even 2 to 3 months appears necessary with leucosis.
- Clean waterers daily and use a quaternary ammonia solution weekly.
- Immunization, with attenuated vaccines, is a widely used practice and Dr. Smith gave these ground rules for the job.
- Infectious bronchitis and Newcastle vaccines may be given in water, by spray or mist; the former at 4-10 days and again at 14-16 weeks while the latter requires three applications, at 4-10 days, 30 days and 14-16 weeks.

• Laryngotracheitis vaccines may be applied by the vent brush or eye drop method, at 10-14 weeks.

• Fowl pox vaccine may be given by the wing web method at 8-12 weeks.

• Avian encephalomyelitis vaccine can be administered by the water method at 10-12 weeks.

Dr. Smith outlined the use of drugs for disease prevention and gave a flock health program for the growing of replacement pullets.

**1st week.** Use Tylosin on day-old birds to ensure a start free of PPLO. Use a coccidiostat.

**2nd week.** Vaccinate against infectious bronchitis and Newcastle.

**4th week.** Revaccinate against Newcastle, if necessary, and have a poultry pathologist check some birds for intestinal problems. Re-check at 6 and 10 weeks.

**9th week.** Vaccinate for fowl pox, if necessary.

**11th week.** Use laryngotracheitis vaccine, if necessary.

**12th week.** Use epidemic tremor vaccine, if necessary, and discontinue coccidiostat.

**14th week.** Have a laboratory check for both internal and external parasites.

**15th week.** Final vaccination for infectious bronchitis and Newcastle.

**18th week.** The check by a poultry pathologist will include blood sampling.

This is a complex program and Dr. Smith mourns the shortage of trained pathologists and the unwillingness of poultrymen to submit birds for examination. This should be done routinely and should include good and poor birds.

"Perhaps," says Smith, "if poultrymen would take more time and care to submit specimens, and if poultry pathologists could institute more interest within the profession, we would move closer to controlling poultry disease problems."—P.L. V

## PRI Now Operating Soundly and in the Black

ACCORDING to M. R. McQuarrie, sire analyst for Performance Registry International, "PRI is now operating soundly and in the black."

Performance Registry International was set up in 1955 to test the performance of all beef breeds and to provide them with a set of standards. Those bulls which qualify for the Golden Certified Meat Standard Award pass a high set of standards, and prove themselves to be doing a superior job of siring cattle which are suitable for today's beef trade. Only 17 awards have been given out for superior bulls, 6 of them coming to Canada. At a recent meeting of PRI in Tulsa, Okla., the Ontario A.I. units which own these bulls were presented with trophies.

More and more people are coming to realize that production records are more valuable for appraising beef cattle than are show ring records. They realize that show ring

standards are subject to change with the fads and fancies of the day.

According to records shown at the convention in Tulsa, cattlemen who have adopted PRI, and have culled the lower-producing stock from their herds, are realizing as much as .46 pound extra per day on each calf. This shows that cattle with the greatest genetic potential are the cattle which produce more calves and higher rates of gain.

The testing of beef cattle is done on two levels, pre-weaning testing and post-weaning. Pre-weaning tests are useful in picking out low-producing cows. "A cow which weans a light calf this year will likely do the same next year," says McQuarrie. Post-weaning tests are important in recording the calf's rate of gain and in picking out those cattle which are most efficient, since efficiency is directly associated with leanness and tenderness as well as profit.

The aim of PRI is to identify cattle which are the top third portion of today's stock. Doug Baird of the Canada Department of Agriculture told the convention that of Canada's Hereford bulls tested so far, the top third have qualified for the Certified Meat Sire award, proving that Canada's quality beef places second to none in this international organization.

PRI feels that commercial cattlemen can best use the program by using tested bulls, and by identifying and testing the females. The heifers from these sires can be used to replace low-producing cows in the herd.

At the conclusion of the convention, George Rodanz of Stouffville, Ont., was elected president for the coming year; Jerry Litton, a Charolais breeder from Chillicothe, Mo., was made president-elect. V

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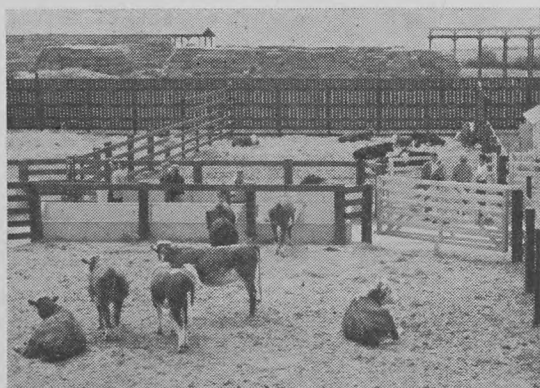
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The big new feedlot of the Beef Cattle Research Project at the University of Saskatchewan

[Guide photo]



## Research Feedlot

THE BIGGEST nutrition research feedlot for beef cattle in the country has been opened at the University of Saskatchewan. The lot has 27 pens with room for 16 steers in each, for a total capacity of 432 steers. A complete feed mill is included in this beef cattle research project, which will permit researchers to investigate processing and feeding methods. Various rations will be tested, in

addition to feed additives such as hormones. In charge of the project is Dr. H. H. Nicholson who is beef cattle specialist at the University. The new research center is financed by the Horned Cattle Trust Fund in Saskatchewan, Saskatchewan Wheat Pool, Canada Packers Limited, Federated Co-operatives, and by the Board of Governors of the University of Saskatchewan. V

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## BIG PROBLEMS OF LITTLE PIGS

(Continued from page 15)

Auction markets, or community sales as they are variously called, come in for a great deal of bitter criticism. It is, however, hard to argue with success and farmers do appreciate and patronize them.

### IDENTIFY AUCTION SALE PIGS

The most valid criticism is that there is no adequate system of marking and identifying hogs. It is a curious anomaly that the Ontario Government, which recently got rapped over the knuckles for its excursions into the police state, does not condone the marking of hogs, in the belief that this infringes on the rights of sellers.

Dr. C. L'Ecuyer, who prepared the veterinary report on the swine mission to Europe, stated: "In Sweden, one million pigs, or one-third of the total production, are sold each year through auctions. All weaned pigs must bear an identity tag indicating the region of origin and the producer. Since all pigs sold for fattening are marked with a permanent tag, they can be traced to the farm of origin if diseases occur during fattening or if lesions are found at slaughter."

It is perhaps no coincidence that Sweden has the most advanced health program of all the countries visited by the mission and that premium pigs are in demand by the producer, the purchaser of weanling pigs and the meat packer.

Our own auction markets are, judging from the patronage they receive, a necessary link in the chain of production. Adequate marking of weaner pigs is long overdue. Markings should be hard to eradicate and should last at least 2 weeks. The name and the location of the seller should be made public at the time of sale and some mark made on the pig to indicate the auction through which it passed. The good producer would be proud to have his pigs identified.

It is hard to imagine any farmer being willing to purchase a poor creature which has had the misfortune to pass through five such sales. Lack of buyers would soon curtail the traffic in the much traveled pig, while bidding would be more spirited for thrifty pigs of good breeding. V



## Letters

### Breath of Spring

The article in the May issue regarding outdated standards in the beef cattle industry comes like the breath of spring blowing away the dregs of winter. At least it's that way to me, maybe because I'm prejudiced since I've been working with Dr. Ray Woodward promoting

progeny tested sires for American Breeders Service. Anyhow, I anticipate you may receive quite a bit of "anti" reaction from the long established old line and I just wanted you to know that there are at least a few on your side who agree and believe that a change is long overdue in this business of eyeballing a critter for beef breeding purposes.

I presume from your article that you are familiar with the ABS program for developing and testing its own bulls, which Dr. Woodward

heads up. The first cycle of testing was all done on Saskatchewan ranches and feedlots. I understand it's continuing there, as well as having been expanded to include U.S. herds. It's quite a story but sometimes one feels like he's shouting into the wind . . . until some welcome editorial support like yours comes along.

S. M. Creek.

### Too Much Hokey-Pokey

Thank you for *A Dress Unknown* in the March issue of *Country Guide*.

I make nearly all of my own clothes, buying a dress only about once in 5 years, so my problem is slightly different. My measurements are 35, 26, 34; I am 5 feet 4 inches tall and for 25 years have varied in weight from 109 to 122 pounds. I have used a size 14 pattern consistently for 25 years since I was 20. Since I buy dresses so infrequently I remember the sizes.

In 1942 I bought a size 16 which was a perfect fit. After that war I bought a couple of dresses in size 14. In the early fifties I bought a 13, then a 12. In the middle fifties, I bought a couple of dresses in England where sizing is different. In 1960 I was amazed to find an 11 which fitted perfectly and last Monday I walked out of a shop with a size 10 which required shortening. I weigh 122 pounds now—just what I weighed in 1942.

Now my problem is that if I remain the same size and weight as I do now and live to the age of my grandmother (96), I can expect to wear a size minus 2! Don't you think that this will be slightly embarrassing?

It was so convenient to shop in England and so honest to ask for a dress to fit—bust 35, weight 120 pounds, height 5 feet 4 inches; and to have the clerk bring out a selection all of which would fit. Why can't women be honest about their size and weight and insist that manufacturers mark their dresses with honest figures in inches and pounds instead of all this silly hokey-pokey of teen and sub-teen sizes.

M.H.H.,  
Sutherland, Saskatoon,  
Sask.

### Horticulturist

I have been a subscriber since about 1914, I am 72 now, and living on a half acre in the suburbs of Vancouver. I always turn first to your horticulture page and have received many good hints in the past. It takes many years sometimes to find out mistakes. For instance, here, apples and peaches do not do well, but a 10-year-old tree of Van cherries brought in \$825 in 1963. It is a self-pollinator and is also popular in the Okanagan Valley. It is never sown. It is called a non-cracker but this is not true. I tried cultivated Saskatoons on the prairie. They should be planted in a shady spot so they will not bloom too early and freeze. The blueberry does very well here.

E.F.T.,  
Richmond, B.C.



Hi Folks:

People keep asking me what I think about the flag question, and I find myself getting mad. Although I'm an Ensign plugger of many years standing, the reason I get mad is that those who are shouting loudest for the Red Ensign now are people who would've shouted "treason" a few short years ago if you had run up the Ensign in place of the Union Jack. Now they've been scared into supporting the Ensign, as I have long predicted they would be. Last week I even saw an Ensign in front of an RCMP office, which is practically open revolution.

Just a few years ago I staged a quiet Canadian revolution of my own. I was on a Boy Scout group committee when the question of buying a new flag came up. My suggestion was that we buy a Red Ensign in place of a Union Jack. In fact, I was prepared to do a filibuster on it. By the shocked silence that followed you'd think I'd tossed a rock through a window of Buckingham Palace. Then a young Canadian-born revolutionist spoke up and said he thought this was a good idea. Group members pawed frantically through the rule book looking for a regulation which would prevent this dreadful thing from coming to pass.

For your information there is no law against thinking like a Canadian or even acting like one. We got our Ensign, and when all the Scouts gathered for some sort of jamboree it stood out like a sore thumb.

I once asked a minister of agriculture why the experimental farms didn't fly Red Ensigns as they were presumably being financed by the Canadian Government. He said Quebec would never stand for it, which was no answer at all because I wasn't referring to the farms of Quebec. I got the impression that he too thought that raising the Ensign was a pretty radical step to take. But I'll just bet you he's a real Ensign booster now!

My first attempt to be a Canadian (if you'll pardon the term) was many years ago in public school. All our teachers were English, except for one. He was a foreigner named McNab. On sports days he used to parade around in a skirt, blowing an outlandish sort of instrument which consisted of a bag and a bunch of pipes.

Every time we had to put down our nationalities on some form or another I would put "Canadian." This was scratched out and "English" substituted because my people were English. The teacher would kindly explain that there was really no such a thing as a Canadian. Once when I got mad and put down "Hottentot" I got the strap. This early training was so thorough that today I know a 40-year-old university professor who still refers to himself as an "Englishman born in Victoria."

Now we are faced with an entirely new flag design because a large section of our population find the Red Ensign unsuitable. The latter are not all in Quebec. At least two Western provinces apparently don't like the Ensign. One flies the Union Jack exclusively and the other adorns its public buildings with a flaming sunset design which is a joy to behold. We are faced with the choice of ramming the Ensign through regardless and degenerating into a collection of ethnic groups, or growing up into a nation with a symbol which a majority in every province will accept.

Personally I'm sick of hearing about English-Canadians, French-Canadians or Chinese-Canadians. I just want to be known as a Canadian. I'll support any flag design that a majority of Canadians want, be it an Ensign, crossed beverage bottles or even a triple maple leaf. Then let's stop wondering if we should lean on Britain or the States, and try standing on our own two feet.

Sincerely,  
PETE WILLIAMS.